AGENDA
Mansfield Conservation Commission
Regular Meeting
Wednesday, October 17, 2012
Audrey P. Beck Building
CONFERENCE ROOM B
7:30 PM

1. **Call to Order**

2. **Roll Call**

3. **Opportunity for Public Comment**

4. **Minutes**
   a. September 19, 2012

5. **New Business**
   a. IWA Referral: W1504 - Kueffner - Rte 195 – Seasonal Aerial Forest Ropes Course
   b. PZC Referrals PZC File #1313-Rte 195- Seasonal Aerial Forest Ropes Course,
   c. Other

6. **Continuing Business**
   a. Protecting Dark Skies in the Last Green Valley
   b. Water Source Study for the Four Corners Area/Environmental Impact Evaluation (EIE)
   c. Swan Lake Discharge Mirror Lake Dredging and other UConn Drainage Issues
   d. UConn Agronomy Farm Irrigation Project
   e. Eagleville Brook Impervious Surface TMDL Project
   f. UConn Hazardous Waste Transfer Station
   g. Ponde Place Student Housing Project
   h. CL&P "Interstate Reliability Project"
   i. Other

7. **Communications**
   a. Minutes
      - ☐ Open Space (9/18/12)
      - ☐ PZC (10/1/12 & 10/10/12)
      - ☐ IWA (10/1/12)
   b. Inland Wetlands Agent Monthly Business Report
   c. September 17, 2012 Letter from DEEP re: CL&P Interstate Reliability Project
   d. October 5, 2012 Letter from Chairman Goodwin Re: Draft 2013-2018 CT Conservation and Development Policies Plan
   e. September/October 2012 CT Wildlife
   f. CACIWC Invitation to the 35th Annual Meeting and Environmental Conference
   g. Strategic Conservation Planning Workshop October 12, 2012
   h. October 5, 2012 Announcement from DEEP Re: An Act Concerning Phosphorous Reductions in State Waters
   i. Other

8. **Other**

9. **Future Agendas**

10. **Adjournment**

Town of Mansfield
CONSERVATION COMMISSION
Meeting of 19 September 2012
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Joan Buck (Alt.), Robert Dahn, Quentin Kessel, Scott Lehmann. *Members absent*: Aline Booth (Alt.), Neil Facchinetti, Peter Drzewiecki, Frank Trainor, John Silander. *Others present:* Grant Meitzler (Wetlands Agent), Linda Painter (Town Planner).

1. The meeting was **called to order** at 7:31p by Chair Quentin Kessel. Alternate Joan Buck was designated a voting member for this meeting. {John Silander came to the meeting but was excused before it was called to order when it was clear that he was not needed for a quorum; he was to leave for Vladivostock the next day.}

2. The draft **minutes** of **the 18 July 2012 meeting** were approved as written; the August meeting was cancelled.

3. State Plan of Conservation and Development. Linda Painter informed the Commission that the State is in the process of updating its Plan of Conservation and Development, which is supposed to guide project planning and funding by state agencies. Much of the guidance will be provided by maps that place particular parcels of land in *conservation*, *development*, or *balance* zones, depending upon whether such parcels meet certain criteria. There are six conservation criteria (e.g., prime agricultural land, wetlands, critical habitat) and six development criteria (e.g., water/sewer connections, census block classified as urban, mass transit access).

The idea is to direct development projects and funding to development zones and conservation projects and funding to conservation zones. Balance zones satisfy some conservation criteria and some development criteria; projects in this zone would require balancing conservation and development. To prioritize projects and funding, conservation and development areas are further classified by how many of the conservation or development criteria they meet. Since funding is always limited, the state might consider funding only projects in "high priority" conservation or development zones that meet at least 5 of the 6 criteria for such zones.

Since the Town depends upon state funding for many projects, it is important that its own Plan of Conservation and Development be aligned with the State's Plan, preferably by having State maps reflect the Town's conservation and development goals.

Some concerns about the State's zoning procedure emerged in discussion: (1) Areas classified as "high priority" development zones may not be eligible for state grants for open space purchases, although open space may be particularly valuable for residents of these zones; surely urban parks can add a great deal to the quality of life in urban areas. (2) Balance zones can lump together parcels of very different character – for example, parcels that would be zoned "high priority" conservation areas but for satisfying one of the development criteria and parcels that would be zoned "high priority" development areas but for satisfying one of the conservation criteria.

4. PZC Applications. Painter reported to the Commission on several applications before the PZC.

a. **PZC 1284-2 (Whispering Glen, 73 Meadowbrook Rd)** In 2009 the PZC approved a development with 37 condominium units on this site. The developers have reconsidered the market for large condominiums and are now asking for approval of 54 smaller units instead.

The Commission considered the original application at its meeting of 18 March 2009. Since the amended application calls for even greater density, the Commission's comments on W1424, quoted here from the minutes, are worth reiterating:

- The design of the stormwater management system should be scrutinized to insure that it is up to the task; uncontrolled runoff could erode the steep slope and dump sediment into the wetland and brook below.
- The erosion potential of the trail providing access to the conservation area could be reduced by running it along the bottom of the slope rather than half-way up.
- To enhance protection of the wetland and brook, the steep slope should be included in the conservation area.
- Given the high density of development and the potential for storm-water impacts on the slope and wetlands below, the Commission suggests eliminating those units proposed for construction within the regulated area.

b. **PZC 1312 (Healey Banquet Hall, 476 Storrs Rd)** This barn-conversion project has been approved by the IWA. The applicant is now seeking PZC approval for overflow parking on Town land and for exceptions to zoning regulations concerning set-back, building height, and the like – issues outside the Commission's purview.

c. **PZC 1246-10 (Storrs Center)** The Storrs Center developers propose to replace planned retail buildings with underground parking along Rte. 195 from Post Office Rd to the old Storrs Drug location with a small retail building at the corner, a parking lot, and then a small supermarket. Drainage and wetlands would not be affected by this change.

d. **PZC 1311 (Sauve subdivision, North Windham Rd)** This is a pre-application submission for a 3-lot subdivision off N. Windham Rd. {Lehmann participated in the 28 August Field Trip to the site; his report is attached.} The applicants propose a common driveway from N. Windham Rd. to access three lots on a plateau to the north; frontage on the road, along with wetland, an open area, and an open meadow below and west of the plateau would be dedicated open space. Kessel reported that the Open Space Committee had discussed an alternate proposal: enlarge one of the lots to include all the open space areas and protect them with conservation easements. Lehmann was not enthusiastic about this, pointing out that dedicated open space areas to the west would enhance Mansfield Hollow State Park (to which they are adjacent) and that conservation easements on private land do not afford public access. {Painter left the meeting.}

5. IWA referral: W1501 (Block, 8-22 Hanks Hill Rd) An old 12x60 ft 'mobile home' has been removed and a pad prepared for a new 27x48 ft modular unit (which, in virtue of its shorter length, would be a little farther from a drainage stream). Like all the other units in this development, this one would be served by UConn water and sewer. The Commission agreed unanimously (**motion:** Dahn, Lehmann) that no significant impact on wetlands was likely.

6. Annual Report. With insertion of "together with the Conservation Commissions of Ashford and Willington" between "and" and "hosted" in the third bullet under "Accomplishments", the Commission unanimously approved (**motion:** Buck, Dahn) the FY2011-12 Report drafted by Linda Painter and thanked her for preparing it.

7. Updates. Kessel reported that EIEs for the 4-Corners Water & Sewer Project and UConn's Hazardous Waste Transfer Station are still forthcoming.

8. Adjourned at 8:44p. Next meeting: 7:30p, Wednesday, 17 October 2012.

Scott Lehmann, Secretary, 20 September 2012.

Attachment: Field Trip Reports

28 August Field Trip

W 1500 (Tolis, Hickory La). An above-ground pool & deck is proposed on a level terrace near the house. The edge of the terrace is formed by a stone retaining wall, below which lawn slopes to wetlands (about 80 ft from the proposed pool at the closest point). A catastrophic failure of the pool wall that quickly emptied 1K ft^3 of water into the wetland might not be good for it, but this seems too unlikely to worry about.

PZC 1311 (Sauve, North Windham Rd). A 3-lot subdivision will be proposed for a 10.7-acre site fronting on Windham Rd; this was a pre-application visit. Existing buildings on North Windham Rd. would be demolished; a common driveway would access three lots on a plateau in the east central portion of the property; stone walls would be undisturbed, save for one driveway cut. The well-planned tour climbed to the plateau and circled the area proposed for development. On the west, the plateau slopes steeply down to wetland and two attractive open areas adjoining Mansfield Hollow State Park; this portion of the property would be open space. On the southeast, the plateau also slopes steeply down to an isolated piece of the Park on the north side of North Windham Rd. The plateau appears to have been logged within the past five years or so, and what remains there is mostly low-value pine. In my view, the area proposed for open space is the area of greatest conservation-value. The only suggestion I'd make is to protect the steep slopes west and southeast of the plateau with conservation easements.

12 September Field Trip

W 1501 (Block, 8-22 Hanks Hill Rd) The proposal is to replace a single-wide (12 ft) modular unit with a double-wide (24 ft) one. The new unit is shorter and would therefore be slightly farther from a drainage ditch behind it that carries runoff from Hanks Hill Rd and beyond into a wetland below. Like the other units in this "mobile home" park, this one would be connected to UConn water and sewer. By the time of the site visit, the old unit was gone and a widened pad was ready for the new one. It's hard for me to see a significant wetlands impact from this project, especially if impact is reckoned relative to the old installation.

PZC 1284-2 (Whispering Glen, 73 Meadowbrook La) The housing slump has led the developers of this parcel to reconsider their PZC-approved proposal to construct 30-some large townhouse units and to propose 54 smaller ones instead. Relative to the original plan, the development's layout, landscaping, and open space dedication seem unchanged, but units are smaller and some "active" recreation facilities (for horseshoes & volleyball) have been added. The developer did not show up for our visit; we walked the length of the area to be developed on an old driveway, but did not see much of interest (the area is now pretty jungly). There may be a question of whether provision for open space and recreation is sufficient, given that more people will be housed in the development. However, the portion of the property of greatest conservation-value – the area along Conantville Brook – is already included in dedicated open space.

Scott Lehmann, 13.IX.12

PAGE
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APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
TEL: 860-429-3334 OR 860-429-3330
FAX: 860-429-6863

FOR OFFICE USE ONLY	
File #	WI504
Fee Paid	$185-
Date Received	9-27-12

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact Grant Meitzler, Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name Kueffner/Stoddard

Mailing Address 192 Ravine Road

Storrs, CT Zip 06268-1503

Telephone-Home 860-805-3276 Telephone-Business 860-481-0544

Title and Brief Description of Project

Seasonal Aerial Forest Ropes Course - a seasonal recreational use

Location of Project Route 195 (Storrs Rd) ½ mile South of Rt 32

Intended Start Date October/November 2012

Part B - Property Owner (if applicant is the owner, just write "same")

Name Christopher Kueffner

Mailing Address 192 Ravine Rd

Storrs, CT Zip 06268-1503

Telephone-Home 860-429-8829 Telephone-Business 860-805 3276

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature [signature] date 9/27/12

Applicant's interest in the land: (if other than owner) _____

Part C - Project Description (attach extra pages, if necessary)

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application – page 6.)
Please include a description of all activity or construction or disturbance:

a) ***in*** the wetland/watercourse
b) ***in*** the area ***adjacent*** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is ***off*** your property

See attached/accompanying Statement of Use Document.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

a) ***in*** the wetland/watercourse
b) ***in*** the area ***adjacent*** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

See attached/accompanying Statement of Use Document, Site Plans, and Wetland Delineation Report.

3) Describe the type of materials you are using for the project: As noted in plans, gravel parking ~~area~~ area with minimal macadam at apron (as required by DOT).

a) include ***type*** of material used as fill or to be excavated See site details/plan
b) include ***volume*** of material to be filled or excavated See site detail sheet/plans

4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Detailed in plans

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

Flat woodland

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

We considered an alternative driveway entrance on the old logging road, but the sightlines did not meet DOT requirements. The proposed entrance is sited to have minimal impact on the wetlands

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application – page 6.)**

2) Applicant's map date and date of last revision 9/25/12

3) Zone Classification RAF-80

4) Is your property in a flood zone? ____Yes ✓ No ____Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) List the names and addresses of abutting property owners

Name Address

~~List accompanies full application.~~

List attached

2) **Written Notice to Abutters.** You must notify abutting property owners by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. ***Postal receipts of your notice to abutters must accompany your application.*** (This is not needed for exemptions).

Part I - Additional Notices, if necessary

1) Notice to Windham Water Works is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

2) Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

3) The Statewide Reporting Form (attached) shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site?___Yes_✓_No___Don't Know

2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality?____ Yes ___✓No ____ Don't Know

3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality?____ Yes ___✓No ____Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. (*Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Part L - Filing Fee

Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

___$1,000. ___ $750. ___$500. ___$250. ___✓$125. ____$100. ___$50. ___$25.

___✓ $60 State DEP Fee

Note: The Agency may require you to provide additional information about the regulated area which is the subject of the application, or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

The undersigned applicant hereby consents to necessary and proper inspections of the above mentioned property by members and agents of the Inland Wetlands Agency, at reasonable times, both before and after the permit in question has been granted by the Agency.

Applicant's Signature _____ Date 9/27/12

1 Executive Summary

The Applicant (Kueffner/Stoddard) proposes to develop a Seasonal Aerial Forest Ropes Course on less than ten acres of an approximately 120-acre parcel of land along Route 195 in Mansfield, Connecticut. In addition to the high ropes course and the aerial tree-mounted features, the proposed facility will include the installation of an entrance driveway, parking area, and stormwater treatment/management swales. These ground-mounted site improvements are limited to the northern portion of the property and will disturb approximately 1.25 acres of land.

The majority of stormwater runoff from the proposed improvements will be captured by shallow stormwater treatment/management swales prior to discharging to the existing wetland system along Route 195. These stormwater swales will improve stormwater quality by promoting infiltration of runoff, and will partially attenuate peak flows leaving the site by providing some temporary storage and promoting sheet flow discharge.

Existing and proposed hydrologic conditions for the developed area were evaluated. The evaluation demonstrates a slight increase in stormwater peak discharge from the proposed site for the 2-, 10-, 25-, and 100-year storm events as compared to existing conditions. Although peak stormwater flows will slightly increase in proposed conditions, the overall magnitude of the increases will not be significant (approximately 1 cubic-foot-per-second overall increase during a 25-year storm event).

Erosion and sedimentation control details and narratives for construction periods are provided in the site plans. E&S details and procedures are consistent with the 2002 Guidelines for Soil Erosion and Sedimentation Control, and town requirements.

2 Existing Conditions

The site is located along the south side of Route 195 approximately one-quarter mile west of Baxter Road in Mansfield, Connecticut. A Site Location Map is included as *Figure 1.*

In general, existing on-site drainage conditions may be characterized as follows:

- Runoff from approximately one acre of land on the eastern portion of the site sheet flows to the north, towards Route 195, down the existing hillside. Runoff from both the site and portions of Route 195 discharge into a wetland at the northeast corner of the site (denoted as Wetland "A" in the existing watershed analysis). This wetland drains easterly along Route 195. This outfall is denoted as link 1L, "Eastern Outfall".

- The remaining portions of the site follow a similar drainage pattern. Runoff sheet flows to the north, where it combines with runoff from Route 195 in one of two wetlands at the northwest corner of the site. The two wetlands (denoted as Wetland "B" and Wetland "C") are connected by a 12 inch corrugated metal pipe. These wetlands drain into a catch basin with an at-grade inlet, through a reinforced concrete pipe and culvert end discharging north of Route 195. The catch basin is denoted as link 2L, "Western Outfall".

The overall stormwater catchment areas contributing to the various outfalls were delineated to evaluate the existing hydrological conditions. In total, approximately 13.32 acres of land contribute to the subject drainage areas. These drainage areas are illustrated on sheet DRA-01 (Existing Drainage Areas), which is included in *Appendix A* along with the existing watershed model. Underlying soil types, as characterized by the Natural Resources Conservation Service Web Soil Survey, are depicted in *Figure 2.*

3 Proposed Conditions

Although the total facility will occupy slightly less than 10 acres of land, most facility components will be aerial tree-mounted features to support the high-ropes course. As such, only 1.25 acres of this land will be disturbed to construct necessary ground-mounted features, including an entrance driveway, a gravel parking area, a level pad for a temporary ticket/ equipment storage shed, and several stormwater treatment/management swales. Overall, drainage patterns will continue to function the same as compared to existing conditions.

Five stormwater treatment/management swales will be installed along the northern (downgradient) edges of the proposed gravel parking area. These swales have been designed to capture runoff from the majority of the parking area, and will provide some storage volume for the attenuation of peak flows as well as for improvement of water quality. Excess stormwater leaving the swales will discharge via earthen weir, promoting sheet flow towards the wetland systems. Of the total 13.32 acre contributing drainage area, approximately 6.94 acres are captured by the proposed stormwater swales. The drainage model for proposed conditions has been further defined to model the performance of each stormwater swale.

The following tables summarize peak existing vs. proposed stormwater flows and volumes for the watershed analysis.

Table 1
2 Year Design Storm

Design Point	Existing Flow (CFS)	Proposed Flow (CFS)	Net Change (CFS)
Eastern Outfall	0.01	0.09	0.08
Western Outfall	0.00	0.08	0.08
Total	0.01	0.14	0.16

Table 2
10 Year Design Storm

Design Point	Existing Flow (CFS)	Proposed Flow (CFS)	Net Change (CFS)
Eastern Outfall	0.16	0.46	0.30
Western Outfall	0.11	0.62	0.51
Total	0.27	1.08	0.81

Table 3
25 Year Design Storm

Design Point	Existing Flow (CFS)	Proposed Flow (CFS)	Net Change (CFS)
Eastern Outfall	0.32	0.67	0.35
Western Outfall	0.28	0.99	0.71
Total	0.60	1.66	1.06

Table 4 100 Year Design Storm			
Design Point	Existing Flow (CFS)	Proposed Flow (CFS)	Net Change (CFS)
Eastern Outfall	0.77	1.17	0.40
Western Outfall	1.43	1.92	0.49
Total	2.20	3.09	0.89

Although peak stormwater flows will slightly increase in proposed conditions, the overall magnitude of the increases will not be significant relative to the frequency of the storm event (approximately 1 cubic-foot-per-second overall increase during a 25-year storm event). Moreover, installation of a detention system would require additional clearing, earthwork and impact to the existing wooded site, and would concentrate discharge outflows. *(Note that care has been taken to preserve large, established trees via the non-linear orientation and layout of the parking area.)*

Runoff catchment areas for the redevelopment were delineated to evaluate proposed hydrologic conditions. These watersheds are illustrated on sheet DRA-02, which is presented with associated calculations in *Appendix B.*

4 Construction Stormwater Management and Soil Erosion and Sedimentation Control

A detailed E&S control plan has been prepared for the site. During construction, measures will be taken to reduce erosion and manage sedimentation from disturbed surfaces. The following Best Management Practices (BMPs) will be employed:

- Existing stormwater collection structures (catch basins) will be fitted with filter fabric inserts to remove sediments from the run-off prior to entering the receiving drainage systems.
- Silt fence will be installed at clearing limits and the down-gradient perimeter of the disturbed portion of the site.
- Construction Entrances will be installed to prevent tracking of sediment off site.

These BMPs will protect downstream stormwater collection systems following construction. The plan has been prepared in accordance with the 2002 Erosion and Sedimentation Control Guidelines (DEEP Bulletin 34).

Erosion and sedimentation control (E&S) details and narratives for construction periods are provided in the site plans. E&S details and procedures are consistent with the 2002 Guidelines for Soil Erosion and Sedimentation Control (DEEP Bulletin 34), and town requirements.

4.1 Post-Construction Stormwater Management

At the end of construction, all areas disturbed by construction activities shall be stabilized. As a result, the potential for erosion at this site after construction is minimal. Perimeter controls (i.e., silt fence) will be actively maintained until final stabilization of those portions of the site up-gradient of the perimeter control. Temporary perimeter controls will be removed after final stabilization.

The water quality of runoff from the developed site will be improved using widely accepted Best Management Practices (BMPs). The goal of the post-construction stormwater management is to remove 80% of the total suspended solids from stormwater. Water quality will be achieved for the site through the utilization of the stormwater management/treatment swales. Weir outlets will provide settling time necessary to remove sediment from the first-flush of runoff (1-inch of rainfall). This goal is consistent with those of Connecticut and federal stormwater regulations.

The required water quality volume (WQV) to be stored for the areas draining to the stormwater quality swales is 3,074 cubic feet, based on the drainage area collected by the swales, and conservatively assuming the gravel surface is completely impervious. The water quality swales provide a total storage volume of approximately 3,370 cubic feet. Therefore, the

proposed stormwater quality swales will provide the required WQV for the contributing drainage area. A spreadsheet depicting the WQV required for the contributing drainage areas in included in *Appendix B.*

These design measures incorporate commonly used Best Management Practices and follows guidelines set forth by the CT DEEP Stormwater Quality Manual and the Connecticut and federal stormwater regulations.

5 Methods

The watershed analysis for existing and proposed conditions was completed using the HydroCAD Software Solutions computer program. The HydroCAD program is based on NRCS TR-20 methods. The methods described in the NRCS TR-55 manual were followed to calculate the curve number and time of concentration input data for this model. A curve number of 98 was used for paved surfaces, while curve numbers of 76 to 91 were used for gravel parking lot surfaces depending on underlying soil types. Pervious surfaces were modeled using curve numbers of 32 to 80 depending on the general surface conditions and underlying soil types. These values are acceptable for surfaces over Hydrological Group-'A' soils per the NRCS TR-55 Drainage Manual.

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FUSS & O'NEILL

WETLAND DELINEATION REPORT

PREPARED FOR: Kueffner Property
CONTACT: Lynn Stoddard

PROJECT TITLE: Kueffner Property
PROJECT LOCATION: Route 195, Mansfield
PROJECT NO: 20111004.A20

PROJECT DESCRIPTION: Wetland delineation for siting of a parking lot

DATE(S) OF INVESTIGATION: December 14, 2011
WEATHER: Sunny, 40F Rain (last 24 hours): 0.00 inches

METHOD OF WETLAND/WATERCOURSE DELINEATION

Delineation:
- ☒ Connecticut Inland Wetlands & Watercourses
- ☒ U.S. Army Corps of Engineers
- ☐ Tidal Wetlands

Flag Number Sequence: A100-A118, B200-B241, C293-C312

Field Plotted: ☒ Site sketch ☐ Aerial photograph ☐ GPS (sub-meter) located
☒ Site mapping: VT-01 Scale 1" = 30' Contours: 1 ft

METHOD OF UPLAND SOIL DELINEATION

☒ Field Delineated ☐ Field confirmed NRCS soil mapping

FIELD INVESTIGATION METHOD

☒ Spade & Auger ☐ Deep test pit (backhoe) ☐ Other: _____

SOIL CONDITIONS

☐ Dry ☒ Moist ☐ Wet ☐ Frozen (____ in.) ☐ Snow cover (____ in.)

The wetland and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance. Classification and mapping of soils on site were conducted in a manner consistent with the U.S. Department of Agriculture Soil Survey Manual (Soil Survey Staff, 1992). This delineation does not constitute an official wetland boundary until such time as it is accepted and approved by local, state or federal regulatory agencies.

As Prepared By:

Joshua H. Wilson
Soil Scientist

WETLAND DELINEATION REPORT

SUMMARY OF SOILS

Wetland Soils

Aquents: Poorly to very poorly drained soils formed in human transported material or on excavated (cut) landscapes. This soil series was identified primarily by the "A" flag series, which appears to have been a borrow pit.

Aquepts: Poorly to very poorly drained soils with an aquic moisture regime and showing some soil development in the B-horizon. Soils mapped as Aquepts at the site belong to the Ridgebury, Leicester and Whitman series and were observed in wetland areas flagged with the "B" and "C" series.

Upland Soils

Udorthents: Well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are typically covered by buildings and pavement. These upland soils were observed associated with the existing logging road as well as spoil piles adjacent to the former "borrow pit."

Gloucester Somewhat excessively drained soils formed in sandy glacial till. They are nearly level to very steep soils ground moraine uplands and moraines.

SUMMARY OF WATERCOURSE AND HYDROLOGY

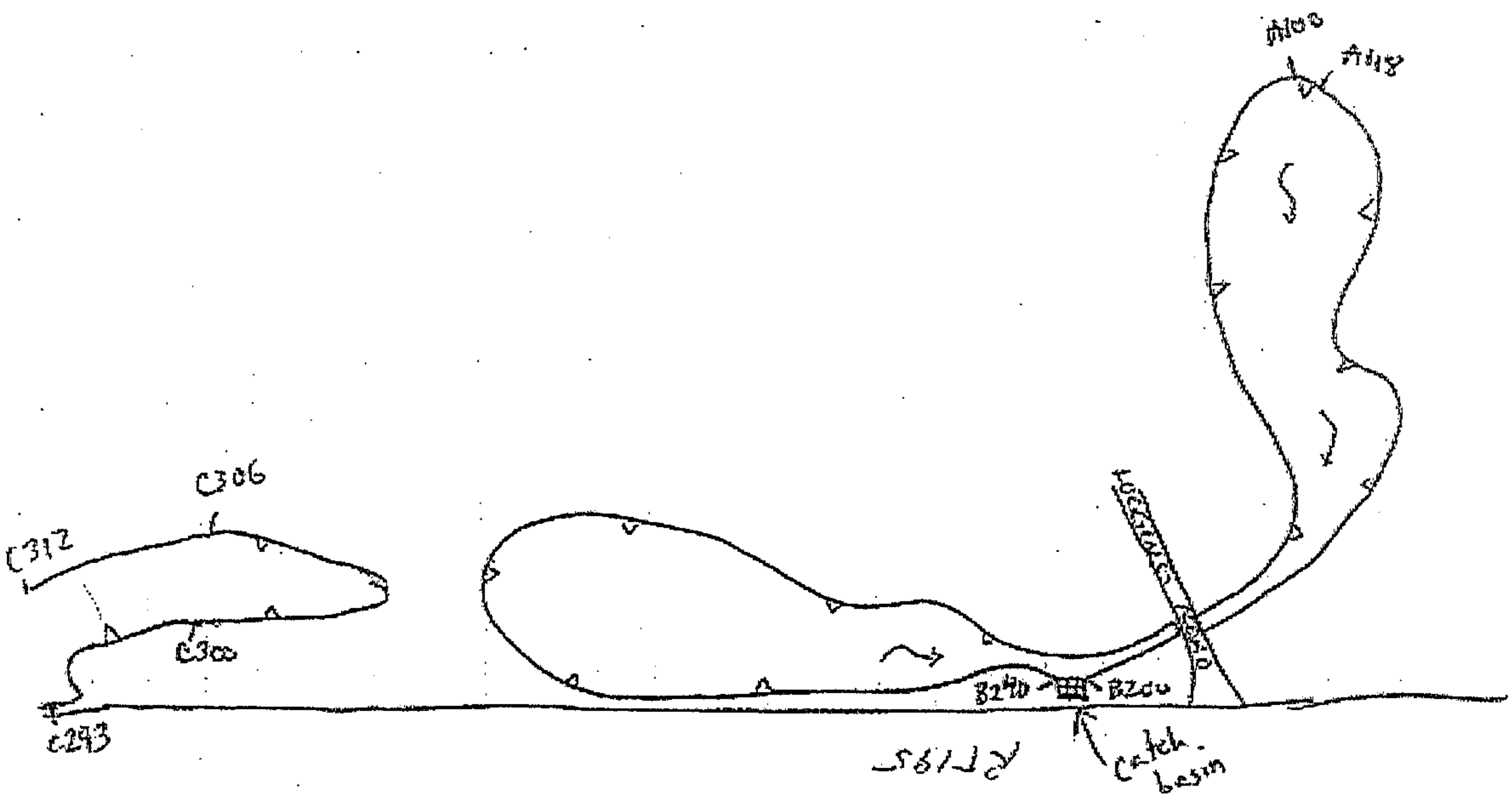
- There are no previously mapped watercourses on the site
- Groundwater seepage from the "borrow pit" developes into an small intermittent stream flowing in a northerly direction. This stream flows under the logging road and joins with surface discharge from wetland area "B"
- Surface drainage from wetland area "B" collects and flows in a westerly direction as an intermittent stream. The intermittent stream enters a culvert and flows northerly under Route 195.
- There is a tentative connection beween wetland area "B" and "C" that appears to flow only during the most extream precipitation events.

SUMMARY OF WETLAND FUNCTION & VALUES ASSESSMENT

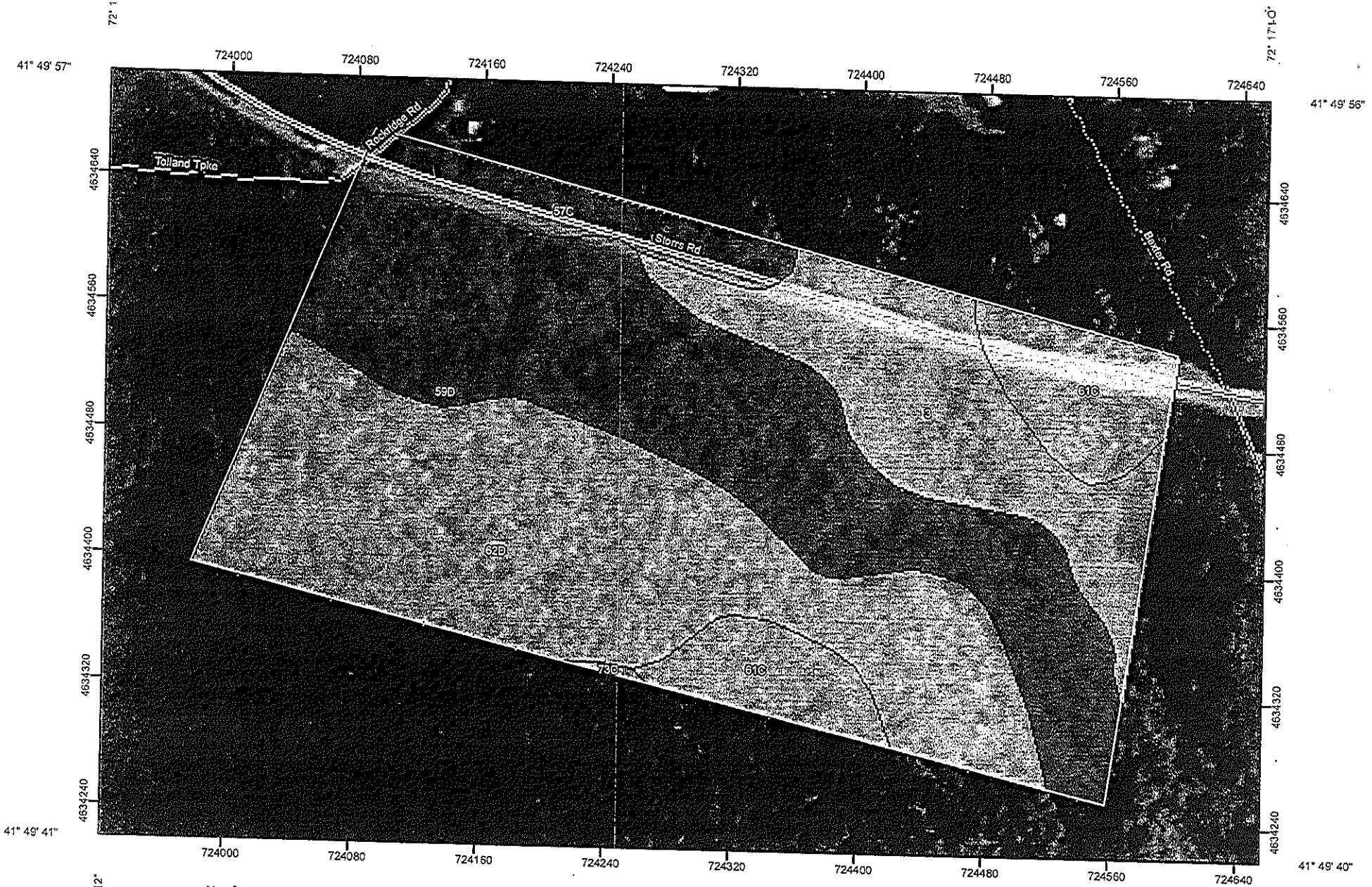
- The wetlands on site provide the following functions and/or values: groundwater discharge, sediment/toxicant rentention, nutrient removal/renovation and production export.

ATTACHMENTS

- Site sketch
- NRCS Soil Drainge Class Mapping
- Wetland Determination Forms


C312
C306
C300
C293
B240
B200
catch basin
A100
A118
8/17/95

Drainage Class—State of Connecticut
(20111004.A20 - Kueffner Property)



USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/3/2012
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- Excessively drained
- Somewhat excessively drained
- Well drained
- Moderately well drained
- Somewhat poorly drained
- Poorly drained
- Very poorly drained
- Subaqueous
- Not rated or not available

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:3,470 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 10, Mar 31, 2011

Date(s) aerial images were photographed: 8/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Drainage Class

Drainage Class - Summary by Map Unit — State of Connecticut (CT600)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, extremely stony	Poorly drained	6.2	15.4%
57C	Gloucester gravelly sandy loam, 8 to 15 percent slopes	Somewhat excessively drained	2.3	5.6%
59D	Gloucester gravelly sandy loam, 15 to 35 percent slopes, extremely stony	Somewhat excessively drained	13.1	32.4%
61C	Canton and Charlton soils, 8 to 15 percent slopes, very stony	Well drained	4.0	9.9%
62D	Canton and Charlton soils, 15 to 35 percent slopes, extremely stony	Well drained	14.8	36.6%
73C	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	Well drained	0.1	0.2%
Totals for Area of Interest			40.5	100.0%

Description

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Kueffner Property City/County: Mansfield Sampling Date: 12/14/11

Applicant/Owner: Christopher Kueffner / Lynn Stoddard State: CT Sampling Point: B1U1

Investigator(s): Josh Wilson Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toe-hillslope Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 41° 49'52.85" N Long: 72° 18'3.33" W Datum: WGS84

Soil Map Unit Name: Gloucester (59) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ~~X~~	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: B1W1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus rubra	70	Y	FACU
2. Pinus strobus	20	Y	FACU
3. Acer rubrum	10	N	FAC
4.			
5.			
6.			
7.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Carpinus caroliniana	10	Y	FAC
2. Hamamelis virginiana	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	

Herb Stratum (Plot size: 5')
1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
_____ = Total Cover

Woody Vine Stratum (Plot size: _____)
1.
2.
3.
4.
_____ = Total Cover

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	115 (A)		435 (B)

Prevalence Index = B/A = 3.78

Hydrophytic Vegetation Indicators:

___ Rapid Test for Hydrophytic Vegetation

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/1						fsl	
8-24	7.5YR4/4						fsl	
24-36+	10YR4/6						fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

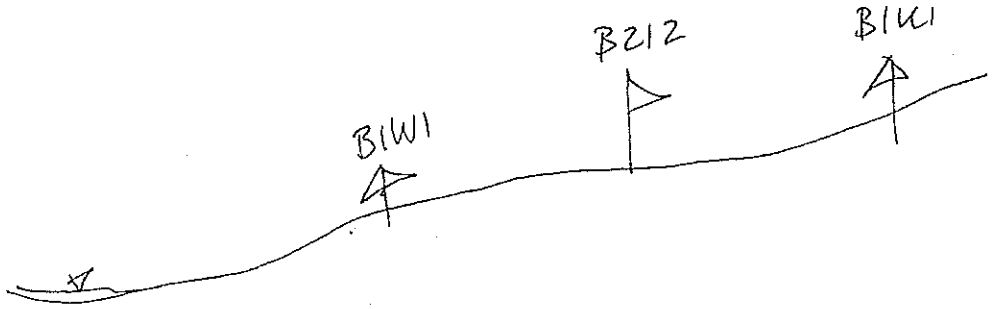
Restrictive Layer (if observed):

Type: Till

Depth (inches): > 36"

Hydric Soil Present? Yes ____ No X

Remarks:



WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Knuffner Property City/County: Mansfield Sampling Date: 12/14/11
Applicant/Owner: Christopher Knuffner/Lynn Stoddard State: CT Sampling Point: B1WI
Investigator(s): Josh Wilson Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Toe - hill slope Local relief (concave, convex, none): Concave
Slope (%): 5 Lat: 41° 49' 53.23" N Long: 72° 17' 59.66" W Datum: WGS84
Soil Map Unit Name: Rigebury, Leicester, Whitman (3) NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: B1W1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	75	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	75 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Lindera benzoin	20	Y	FACW
2. Carpinus caroliniana	10	Y	FAC
3. Vaccinium corymbosum	10	Y	FACW
4. Rosa multiflora	5	N	FACU
5.			
6.			
7.			
22.5/9	45 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Osmunda cinnamomea	5	~~50~~ Y	FACW
2. Onoclea sensibilis	.5	~~5~~ Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
5/2	10 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	85	x 3 =	~~170~~ 255
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	130 (A)		355 (B)

Prevalence Index = B/A = 2.7

Hydrophytic Vegetation Indicators:

~~X~~ Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

X Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No __

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR2/1						mlfsl	H2O @10"
18-24	2.5Y5/3	90	10YR5/5	10	C	PL	grsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- X Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

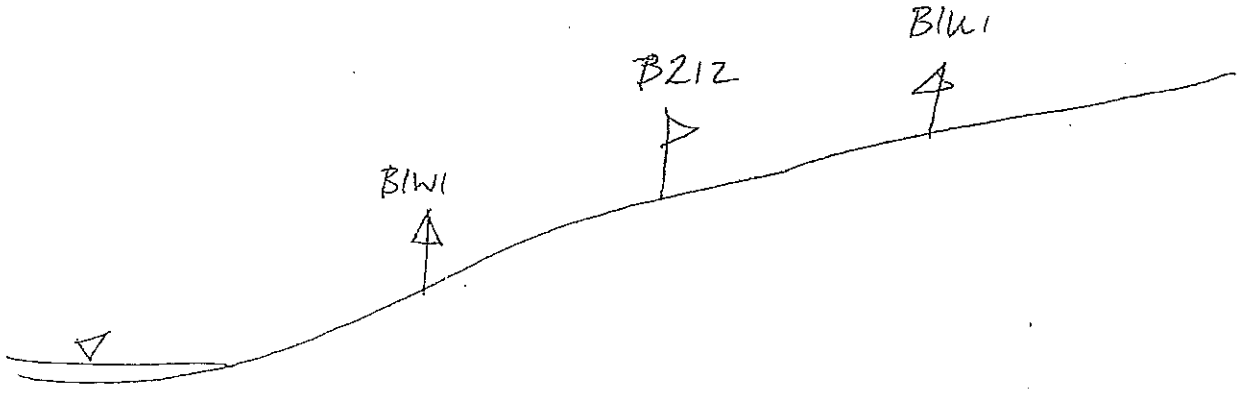
Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:



SPECIAL PERMIT APPLICATION
(see Article V, Section B of the Zoning Regulations)

Mansfield Planning and Zoning Commission

File # 1313
Date 9-27-12

1. Name of development (where applicable) Seasonal Aerial Forest Ropes Course

2. Proposed use of the property is seasonal recreational use
in accordance with Sec.(s) G of Article VII (Permitted Use provisions) of the Zoning Regulations

3. Address/location of subject property: Route 195, Storrs, CT (no street number yet)

Assessor's Map 7 Block 11 Lot(s) 18-1 Vol. 558 Page 461

4. Zone of subject property RAR-90 Acreage of subject property approx 118 acres

5. Acreage of adjacent land in same ownership (if any) 1 acre

6. APPLICANT Christopher Kueffner _____
Lynn Stoddard _____
(please PRINT) Signature

Street Address 192 Ravine Rd Telephone 860-481-0544
Town Storrs Zip Code 06268

Interest in property: Owner X Optionee _____ Lessee _____ Other _____
(If "Other", please explain) _____

7. OWNER OF RECORD: Christopher Kueffner _____
(please PRINT) Signature
(OR attached Purchase Contract _____ OR attached letter consenting to application _____)

Street Address 192 Ravine Rd Telephone 860-429-8829
Town Storrs Zip Code 06268

8. AGENTS (if any) representing the applicant who may be directly contacted regarding this application:

Name Craig M. Lapinski, PE Telephone 860-646-2469
Address Fuss & O'Neill, 146 Hartford Road, Manchester, CT Zip Code 06040
Involvement (legal, engineering, surveying, etc.) maps, site plans, wetlands, engineering, etc.

(over)

9. The following items have been submitted as part of this application:

✓ Application fee in the amount of $310

✓ Statement of Use further describing the nature and intensity of the proposed use, the extent of proposed site improvements and other important aspects of the proposal. To assist the Commission with its review, applicants are encouraged to be as detailed possible and to include information justifying the proposed special permit with respect to the approval criteria contained or referenced in Article V, Section B.5.

✓ Site plan (6 copies) as per Article V, Section B.3.d

✓ Site plan checklist including any waiver requests

NA Sanitation report as per Article V, Section B.3.e

✓ Acknowledgement that certified notice will be sent to neighboring property-owners, as per the provisions of Article V, Section B.3.c (use Neighborhood Notification Form).

NA As applicable for projects within the watershed of the Willimantic Reservoir, acknowledgement that certified notice will be sent to the Windham Water Works, as per the provisions of Article III, Section I.

NA As applicable for projects within State designated aquifer protection areas, acknowledgment that the Commissioner of Public Health will be notified as per the provisions of Article III, Section I. The State Department of Public Health's on line form (www.dph.state.ct.us/BRS/Water/Source_Protection/PA0653.htm) shall be used with a copy of the submittal delivered to the Planning Office.

NA Other information (see Article V, Section B.3.g). Please list items submitted (if any):

10. ALL APPLICATIONS, INCLUDING MAPS AND OTHER SUBMISSIONS, MUST COMPLY WITH ALL APPLICABLE SECTIONS OF THE ZONING REGULATIONS, INCLUDING, BUT NOT LIMITED TO:

Art. X, Sec. E, Flood Hazard Areas, Areas Subject to Flooding
Art. V, Sec. B, Special Permit Requirements (includes procedure, application requirements, approval criteria, additional conditions and safeguards, conditions of approval, violations of approval, and revisions)
Art. VI, Sec. A, Prohibited Uses
Art. VI, Sec. B, Performance Standards
Art. VI, Sec. C, Bonding
Art. VII, Permitted Uses

Art. VIII, Dimensional Requirements/Floor Area Requirements
Art. X, Sec. A, Special Regulations for Designed Development Districts
Art. X, Sec. C, Signs
Art. X, Sec. D, Parking and Loading
Art. X, Sec. H, Regulations regarding filling and removal of materials
Art. X, Sec. S, Architectural and Design Standards

Special Permit Application
Inland Wetlands License Application
Seasonal Aerial Forest Ropes Course
Kueffner/Stoddard, Route 195, Storrs, CT

September 2012

STATEMENT OF USE

The proposed use is a seasonal recreational and educational high ropes challenge course on approximately 10 acres of forest land with frontage on Route 195. This aerial forest park will provide a range of ropes courses running from tree to tree that challenge visitors physically and mentally. It is an engaging, outdoor, friend-and-family-centered recreational activity that builds self-esteem and health.

The park will be designed to connect people with nature and teach and model good forest stewardship. The park layout and design will be very low impact, informed by the natural landscape and topography, preserving native trees and vegetation and existing stone walls. The tree-to-tree aerial bridges, or elements, will be raised and placed without heavy machinery and then secured without drilling into the trees. There will be interpretive signs to teach visitors about forest ecology and there will be no permanent buildings.

Our goals are to provide a wholesome healthy outdoor recreational experience, promote an appreciation for the forest while helping preserve it, and offer a community amenity that highlights Mansfield's natural landscape and community vision. The gravel parking area that will support the ropes course will be as low impact as possible. It has been designed to minimize grading and site disturbance and preserve notable healthy trees. The parking are will be surfaced with permeable gravel to foster stormwater infiltration. Bio-swales will accommodate heavier rains and flow.

The proposed seasonal aerial forest park use is consistent with the *Mansfield Plan of Conservation and Development* in that it will help "conserve and preserve Mansfield's natural, historic, agricultural and scenic resources...." At the same time, we are seeking to actively engage people with the forest by climbing and playing in the trees, fostering a "hands on" understanding and appreciation of nature. As such, this part of the forest will evolve from a passive, scenic community landscape to a vibrant community amenity that directly connects people with nature and models forest stewardship, while preserving the scenic value.

In addition, the proposed seasonal aerial forest park aligns well with the community values and vision, specifically, the strategic plan for *Mansfield 2020: A Unified Vision.* The aerial park embodies the following elements of the Unified Vision Statement by:

- Creating a design and use that embodies principles of sustainability and provides a unique attraction for residents and visitors, contributing to vibrant economic development for Mansfield: *"Principles of sustainability guide zoning and development, preserving the town's historic character and providing for economic vitality."*
- Offering *"residents and the region unique cultural, recreational and educational opportunities."* The ropes course and trails will feature educational signage and help children and adults learn about forest ecology.
- Maintaining and contributing to Mansfield's reputation and rural character: *"known for its excellent public schools, community-wide events, inclusive and efficient government, working farms and protected open spaces..."* This recreational use will enable the preservation of a productive, healthy forest.
- Creating a family-oriented, healthy playground in the trees that makes Mansfield *"a great place to live, work, and play."*
- The park will *promote health, fitness, and well-being and enhance the quality of life*, in keeping with the Priority Vision Point for Recreation, Health, and Wellness.

INLAND WETLANDS LICENSE APPLICATION

Inland wetlands have been mapped on the accompanying Site Plan. This application serves as both the special permit application and the concurrent inland wetlands license application. Wetlands and watercourses were delineated on December 14, 2011 at the site by Joshua Wilson, PWS (#1992) of Fuss & O'Neill, Inc. Wetlands and watercourses were delineated (identified, classified, and flagged at approximately 50-foot intervals) in accordance with State of Connecticut Inland Wetland and Watercourses Act (CGS §§ 22a-36 to 22a-42 inclusive). In addition, Federal jurisdictional wetlands and watercourses were delineated in accordance with the prescribed methodology of the U.S. Army Corps of Engineers'

1987 Wetland Delineation Manual (Technical Report Y-87-1) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (ERDC/EL TR-09-19). The Wetlands Delineation Report is attached.

As stated in the Wetlands Delineation Report, the wetlands on site provide low to moderate functions and values. All three wetlands are groundwater fed. The northwestern most wetland has formed in the remnants of borrow pit and receives a steady flow of groundwater. The wetlands along Route 195 receive seasonal groundwater discharge from the southern uplands as well as runoff from Route 195. In the Spring of 2012, Fuss & O'Neill inspected all three wetlands areas to determine if they supported obligate vernal pool species. Direct observations and dip netting of the wetlands yielded no evidence that they support obligate vernal pool species. Therefore, it was determined that these wetlands are not classified as vernal pools. In addition to groundwater discharge, the wetlands also provide some sediment and toxicant retention (from Route 195) as well as nutrient removal/renovation and production export (from upland and wetland forested) areas.

The proposed gravel parking lot will alter the existing condition at the site. However, this impact is minimized to the maximum extent by the relatively low impact natural design, the use of permeable surface materials, and the construction of the bioswales for stormwater treatment. Because of these design factors and the preservation the majority of the forest cover across the site, the alterations to the site will not adversely impact or diminish the quality or quantity of water that is necessary to support and maintain existing functions and values of the wetlands or watercourses on or adjacent to the site.

FOREST MANAGEMENT PLAN AND STEWARDSHIP

Our goal is preservation and sustainable use of this forest land. In 2011, through assistance from the Natural Resources Conservation Service, Mark Tremblay of Land Management Services worked with us to develop a Forest Management Plan for this nearly 119-acre parcel. The forest cover is predominantly mixed upland oaks, with scarlet, black, Northern red, and white oaks. As stated in our Forest Management Plan, our primary goals and objectives for the parcel include:

- Protection of natural resources, wildlife habitats, and aesthetic values of the property
- Improvement of the agricultural and forest health values of the land
- Improvement of access in portions of the property to facilitate management and recreational activities
- Utilization of the land for educational purposes
- Management of the oak timber resource to provide a sustainable supply of firewood

Our Forest Management Plan conservation practices for this northern portion of the site, which is mixed hardwood/pine and mixed oaks, calls for forest stand improvement and brush management to protect native plant health, improve habitat values, and improve forest health. A copy of the Conservation Practices aerial photo/map is attached. The proposed use is consistent with and will help implement our Plan through forest stand thinning, brush management and removal of invasives. We have surveyed and mapped healthy trees that will be preserved and showcased in the parking area, trails, and ropes courses.

DETAILS OF THE NATURE AND INTENSITY OF THE PROPOSED USE

Since our goal is preservation and sustainable use of this forest land, the aerial park will be designed, constructed, and operated to preserve high quality trees, maintain the natural environment, blend the park features into the natural contours and forest landscape, and provide a model for forest stewardship that invites people to actively and respectfully interact with the forest. From the low impact design of the parking area to staff training to the design of the ropes courses themselves, we will stress appreciation for, and preservation of, the forest.

The major components of the proposed seasonal recreational use include the following, all of which are detailed below: aerial park location and design, low-impact entrance driveway and parking area, support amenities, and public education and health features. The park will provide unique experiences for all visitors. The more active visitor will enjoy the challenge of an aerial trek through ropes courses and glide along zip lines high up in the trees. Other visitors may enjoy observing the climbers and walk the paths beneath, learning about forests and enjoying time in the open outdoors.

Aerial Park Location and Design

The Site Plan shows the general area of the ropes courses. Typical plans for a ropes course, tree platform, and starting platform are attached. These plans illustrate the conceptual design. The exact placement of the courses and platforms within this area will be based on further analysis of individual tree health and vigor.

As our priorities include forest health along side visitor enjoyment and safety, the course design, installation, and operation demand numerous considerations.

- Arborists and foresters will be consulted on the removal of dead and dying trees and limbs and advise on the design of the courses, with goals of preserving and promoting the health and integrity of the forest and visitor safety.
- The aerial park will meet the standards for Challenge Course and Aerial Adventure Course installation, operation, and inspection, as set by the Association for Challenge Course Technology (ACCT).
- The starting platform is the starting point for all of the courses. It is a wooden platform accessed by a broad entry ladder. The entry ladder is raised when the park is closed to restrict access to the courses.
- A number of courses, each consisting of approximately 10 tree-to-tree bridges or "elements," are accessed from the starting platform. An element is typically a kind of obstacle constructed of logs, planks, barrels, swings, nets, etc. suspended between trees. Once leaving the starting platform, climbers traverse from one element to the next by way of 4 foot by 4 foot tree platforms.
- Courses are rated like ski trails and range from yellow (easiest) to double black diamond (most difficult). Visitors must prove themselves able before attempting a more difficult course.
- To protect the trees, no holes are drilled. Instead, platforms are secured with wedges and the elements are attached with cables wrapped around protective blocking surrounding the trunks.
- To minimize impact on the tree root systems and soils, as well as the understory generally, the construction and installation of the elements and platforms is done manually, without heavy equipment.
- While on the course, each climber wears a safety harness equipped with two lanyard clips and a zip-line pulley. Climbers must keep the two lanyards clipped onto the lines at all times--except when transferring between an element and a platform. State-of-the-art lanyard clips will make it impossible for both clips to be detached at the same time, ensuring safety; climbers will always be clipped in.
- There will be benches and wood-chip-covered walking paths beneath parts of the ropes course area, enabling staff and visitors to access the courses from below and watch the climbers. With the exception of the removal of invasive plants, the natural understory will be preserved.
- Our partners have extensive experience and have designed and constructed 8 aerial forest parks in the past four years.

Low Impact Entrance Driveway and Parking Area

Parking lots can be jarring and unattractive. Against that stereotype, we wish to set a different tone as soon as people arrive--a sense of being in the woods. The entrance driveway and parking area have been designed in a way that respects the natural contours of the land and minimize grading and fill. The parking area enjoys a natural, non-engineered look and feel that sets the tone for a nature experience and preserves and showcases large trees.

- The entrance driveway and parking area use low impact design principles and and occupy only 1.25 areas of the site at full build-out.
- The wetland crossing occurs at the area of least possible impact in order to minimize necessary fill and to maintain the existing conditions as much as possible given road-width requirements.
- The parking surface will be gravel, allowing for infiltration of rainwater while providing durability. Bioswales will be created to absorb and filter stormwater.
- The entrance driveway has been sited and designed to minimize wetlands impact and will result in 580 square feet of direct wetland disturbance.
- The full parking area has been designed for up to 85 cars, including required handicapped-accessible spaces.
- To further minimize environmental impact, we will construct the parking area in phases. As this is an entirely new use in this area, the ability to phase in--or not--will reduce possibly unnecessary site disturbance. The first phase will accommodate approximately 50 parking spaces, including accessible parking spaces to meet state code requirements. The Site Plan shows a total of 85 spaces, which will only be built if needed.

Support Amenities

The aerial forest park will require temporary seasonal facilities for ticket sales, storage, and visitor convenience.

- The Site Plan shows areas for temporary seasonal ticket shed and office. These will be temporary sheds placed on a leveled pad with no footings in the ground.
- Utilities (electricity and cable/phone) will be installed to service the leveled pad.
- Simple benches and picnic tables will be situated in the ropes course area; some of which may be built with wood from the site.
- Site Plan indicates the location of portable toilets. They will be on-site seasonally.
- Recycling and refuse containers will be located in the most active areas of the park.
- Bike racks will be provided and we plan to work with the town and community members to develop safe bike-ways from UConn and other areas to the park.
- Staff will be required to complete CPR training and a 3-day on-site training course that enables them to perform assists and rescues when needed, provide safety briefings, and teach visitors how to properly traverse the courses and use the equipment.

Public Education and Health Features

Public Education is part of our mission. Most visitors will come to challenge themselves on the courses. However, some visitors will not be able to climb or won't be interested in it. We see this as an additional opportunity.

- The proposed use will engage people in activities within the forest and will build an appreciation for Connecticut's forest land and the natural world.
- Interpretive/educational signs will teach visitors about tree identification, forest ecology, and forest management, for example.
- Forest tours--led by professionals and DEEP extension staff--based on showing forest management practices, have been hosted or are scheduled on the entire 118-acre parcel to help neighbors and others learn about sound forest management practices and opportunities.
- Ropes courses help build self-esteem and promote physical fitness. This aerial forest park will offer our community healthy fun exercise--an important tool in the fight against obesity.
- The park will provide a family-focused activity for all ages and abilities – from walking paths and observing others to high ropes courses of increasing levels of difficulty.
- We will explore the potential to connect the park and trails on this forestland with Mansfield's extensive hiking trail network.

SITE PLAN

The attached Site Plans, which shows the locations for the proposed parking area, the temporary ticket and equipment storage sheds, portable sanitary facilities, and the general location of the ropes courses.

SANITATION REPORT

The proposed seasonal recreational use does not include any permanent buildings and there will be no drilled well or water service. Consequently, there is no need for water supply and waste disposal or a sanitation report. We will contract with a vendor to provide portable sanitary toilets for use by staff and visitors. The portable toilets will be serviced routinely and removed when the park is not open (winter). Over the first season, we project approximately 100 visitors/day. Based on recommendations from industry experts, we will contract for the appropriate number of portable toilets to comfortably service 100 visitors for a 10-hour "event." We will adjust the number of toilets as required as visitation changes. As part of our contract, we will require the portable toilet vendor to comply with all local and state Health Department requirements and require routine servicing to ensure cleanliness and a positive visitor experience.

EROSION AND SEDIMENT CONTROL PLAN

The Erosion and Sediment Control Plan that will minimize erosion during the construction of the parking area. An erosion and sediment control plan has been developed in accordance with the 2002 Connecticut Guidelines for Soil Erosion

and Sediment Control (see Sheet CE101 of the site plans).

CONSISTENCY OF PROPOSED USE WITH SITE PLAN AND SPECIAL PERMIT CRITERIA

1. Complete Application: All necessary information has been provided for the commission to determine compliance with the Mansfield Zoning Regulations, including: Statement of Use and application narrative, site plan map, wetlands delineation, grading plan, sediment and erosion control plan, etc.
2. Permitted Use: Proposed use is consistent with the Mansfield Zoning Regulations.
    a. The proposed seasonal aerial forest ropes course is a "recreational use" which is allowed in this RAR-90 zone by special permit. In further compliance with Article VII, Section G.10, the subject property is on an arterial street, Route 195.
    b. The proposed use is consistent with all other applicable sections of the Mansfield Zoning Regulations and meets the requirements for parking, landscaping and buffering, set back requirements, and signs.
    c. The proposed use does not include any prohibited uses listed in Article VI, Section A. We have discussed the proposed use with the following relevant staff and incorporated their input into the planning and design of the facility: Director of Planning, Director of the Department of Building and Housing Inspection, Eastern Highlands Health District Sanitarian, Assistant Chief Fire Marshal, Mansfield Resident State Trooper's office, and the CT Department of Transportation.
3. Air/Noise Pollution: The proposed use is seasonal, recreational, and very low impact. It will not generate any air pollution, odor, noise, vibrations, electrical disturbances, radiation/radio-activity, fire or explosive hazards, or other activities listed in Article VI, B.4
4. Waste: There will be no generation or storage of hazardous materials and no liquid or solid discharges. The proposed use does not involve food preparation operations, water supply or waste disposal systems. Almost no waste will be generated on site. Containers for recyclables and refuse will be provided and serviced regularly.
5. Flooding: The site is not subject to flooding and there will be no permanent buildings. The proposed activity is not on or within 500 feet of an identified aquifer area and the proposed seasonal recreational use and low-impact parking area with accompanying bioswales are designed to protect and preserve the forestland.
6. Energy Use: Energy use will be minimal. Computers and task lighting in the temporary seasonal ticket and equipment storage shed will be highly efficient and meet or exceed EPA's Energy Star standards.
7. Parking: The parking area has been adequately sized, based on visitor projections. The parking are will provide 84 parking spaces, including 4 handicap-accessible spaces at full build out.
8. Road and Drainage: The driveway and parking area have been designed to promote vehicular and pedestrian safety and maximize stormwater infiltration. In addition, bioswales have been designed to provide stormwater treatment of excess runoff from the gravel lot.
9. Landscaping: Our intention is to leave things as nature would have them without us. Apart from the removal of non-native invasives, the the removal of some dead or unsound branches and trees for safety (both standing and fallen) within the area of the aerial park, and establishing some wood chip paths to and within the park, there will minimal landscaping. Wherever possible, the recreational use of the site will preserve and maintain the existing natural vegetation of the forest to a significant degree and will not require formal landscaping and buffers. We have surveyed and marked the "medium" and larger existing healthy trees in the proposed parking area and designed the parking area around them. In the ropes course area, trees will also be preserved and integrated into the courses, focusing on the removal of dead and dying trees and limbs. We will also preserve existing stone wall remnants on the site and highlight one that will form a "natural" boundary between the ticketing area and the active ropes course area.
10. Erosion and Sediment Control: As provided on Sheet CE 101 of the site plans, the proposed work complies with the erosion and sedimentation control/site development principles listed in Article VI, Section B.4.r and B.4.s . Specifically, an erosion and sediment control plan has been developed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.
11. Signs: As noted on the site plan, there will be one 4' X 8' or smaller identity sign, per town regulations, south of the driveway entrance on Route 195. A proposed sign location has been identified that will not block visibility and sight lines for motorists. The sign placement will require CT DOT approval for placement in the Route 195 Right of Way (which will be part of the DOT Encroachment Permit application) and subsequent approval by Mansfield Planning & Zoning Commission. The exact location for the sign will be determined as we work with DOT to optimize sight lines and safety. The sign will be made from a tree cross-section and/or natural-edged planks, in keeping with the character of the forestland and the forest aerial ropes course. The attached Identity Sign Plan shows the conceptual design and dimensions of the sign. The final name of the ropes course is to be determined.
12. Setbacks: The site lot frontage on Route 195 is approximately 678 feet, well in excess of the 200 foot minimum lot frontage. The parking area meets the minimum front setback of 60 feet. The aerial ropes course will be set back some 300 feet or more, and will be within the side setback of 35 feet from neighboring property lines.

13. Bonding requirements: We anticipate no bonding requirements for this proposed seasonal recreational use and limited development of the gravel parking area.
14. Sand and gravel: There is no plan to remove sand or gravel, except if necessary to accomplish any minimal grading required to construct the parking area as shown on the Grading Plan in the attached site plans.
15. Sale of Alcohol: There will be no sale of alcoholic liquor.
16. Designated Development District: The site is not in a Designated Development District.
17. Local, State, and Federal Requirements: We have complied with all applicable local, state, and federal requirements:
    a. This application serves as a concurrent application for Inland Wetland Agency (IWA) license and Planning & Zoning Commission special permit. The entrance drive and parking area include direct disturbance to wetlands and activity within the 100-foot upland review area. The entrance will have 580 square feet of direct wetland impacts. The proposed parking area includes 41,900 square feet of activity within the regulated upland review area. Beyond these regulatory activities, the proposed recreation use is entirely within upland areas of the site, involves no fill or excavation, and, therefore, is exempt from wetland regulations.
    b. After all local approvals and prior to commencing work, we will submit a "Category 1 Certification Form" to the US Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection, and comply with all state and federal wetlands requirements.
    c. After obtaining local approvals, we will submit an Encroachment Permit application to the Connecticut Department of Transportation and comply with all requirements for the proposed entrance driveway. An intersection and site distance analysis (attached) was conducted for the proposed entrance by Fuss & O'Neill in September 2011. It was determined that the proposed location of the entrance will provide more than adequate sight distances, safe egress for vehicles turning left, and better visibility for drivers approaching the site.
18. Water Supply, Safety, etc: The proposed seasonal use does not require water supply and will rely on sanitary portable toilets when the course is open. The site provides for fire and emergency access and has been designed to protect the natural environment and foster a broader understanding and appreciation for environmental stewardship. We have discussed safety and security measures with professionals in the Fire Marshall's office and the Mansfield Resident Trooper's Office. As a result of these meetings and conversations, we have already or will take the following precautionary actions to enhance security:
    a. Post "No Trespassing" signs when the park is not open to justify police action if needed.
    b. Ensure the parking lot design and layout sufficiently accommodates safety vehicles.
    c. Install a heavy-duty lockable gate at the driveway entrance to prevent vehicle access when the park is closed.
    d. Minimize "attractive nuisances" (i.e., things that can be broken or stolen) within the park, by using heavy-duty materials.
    e. Establish strong communications with the Mansfield Resident Trooper's Office to prevent and immediately act upon any criminal mischief.
19. Vehicle, Pedestrian, Handicapped Access: Vehicular and pedestrian access to and from the property and internal traffic patterns have been designed to maximize safety and avoid hazards and congestion. The parking area is curved to respect the natural contours of the site, provide a more aesthetic look that sets the tone for an experience in nature, allow for the preservation of significant and beautiful trees around the parking area, and promote traffic calming. In addition, we will minimize impact by building only 53 parking spaces initially (phase 1) and expand up to 84 spaces (phase 2), if needed, to avoid congestion and maximize safety. In accordance with state code, four (4) handicapped accessible spaces will be provided during phase 1. Bicycle racks will be provided to encourage biking to the course as a healthy and environmentally sustainable transportation mode. We are eager to work with the Town and UConn to develop safe bicycle access along Route 195 and connect with other bikeways in town.
20. Grading and Storm Drainage: By utilizing the least sloped areas of the site for parking and by surfacing the parking and travel areas with pervious gravel, we seek to minimize storm runoff and maximize natural infiltration and storm-water filtering As recommended by town staff, we will be creating bioswales adjacent to the lower (northern) side of the parking area to further minimize storm runoff and provide treatment. See attached Stormwater Management Report.
21. Nuisances: The proposed recreational use will not create noise other than the sounds of people laughing and having fun during daylight hours seasonally. The park will be open seasonally during daylight hours so there will be no outdoor lighting.
22. Construction Traffic: There will be very minimal construction traffic and neighborhood impact. Construction vehicles will be needed to grade and install gravel for the entrance driveway and parking area. These vehicles will enter from Route 195 and traffic will be insignificant. Construction of the ropes course will be done manually -- using no vehicles or cranes in the forest area, just ladders and hand tools.
23. Harmony with Surrounding Character: From the entrance drive and parking area to the ropes course, the focus of this recreational area is on the forest and trees and has been designed to be in harmony with this beautiful forest and natural area. The non-invasive parking area curves around trees, in deference to nature, setting the tone for the forest park

experience. Whether the visitor observes ropes course climbers from the ground, or participates actively on the ropes course up in the trees, there is an engaging outdoor activity for each visitor--young and old--and of all physical abilities. Our intent is to create and provide a healthy, wholesome, well-loved community amenity that compliments the character of our rural landscape and draws visitors to Mansfield as a recreational destination while visiting our university and patronizing businesses in our new downtown.

24. Neighborhood Notification: We will notify in writing all property owners within 500 feet of the perimeter of the property boundaries of this site of this special permit application. We will send such notice on the Neighborhood Notification Form by certified mail at least 10 days prior to the date of the public hearing scheduled by the Commission. We will provide a copy of this notice and a listing of property owners notified to the Mansfield Planning Office at least 5 days prior to the public hearing.
25. Compatibility with Mansfield's Plan of Development and Article I of the Mansfield Zoning Regulations: This project aligns significantly with Mansfield's Plan of Conservation and Development. In terms of the first policy goal, it represents a balancing force in terms of development. As agritourism, it represents a potentially economically viable way to support open space. It's success will help preserve open space, forestland, and agriculture. It will not draw on the town's infrastructure to any significant degree, and yet it could help support it by providing a bicycling, and possibly even a public transportation, destination. It also moves the town toward its second policy goal. This project is in and of itself an effort to preserve and conserve. Its success will help preserve Mansfield's natural resources, it's surface and groundwater quality, interior forest areas, and at least one undeveloped hilltop. While it may do little with respect to housing (goal three), we envision that it will further the fourth goal, that of strengthening and encouraging a further sense of neighborhood and community throughout Mansfield. We believe that this proposed use concurs in numerous ways with the statutory responsibilities and purposes noted in Article I of the Mansfield Zoning Regulations. Notes and excerpts follow regarding each of the purposes as listed in Article I of the Mansfield Zoning Regulations.)
    a. As it will be accessible to the general public and it gets people outdoors and is an activity that calls for mental and physical engagement, it will necessarily "promote and protect the overall health, ... and welfare of the residents of Mansfield, Connecticut and the general public;"
    b. By helping to preserve and conserve a large tract of forested land, it will "... provide for and facilitate the orderly growth and expansion of the municipality, thereby preventing an undue concentration of population and an overcrowding of the land...;"
    c. Given that one of our the goals is to--in every extent possible--maintain the aesthetic and natural values of the site, we have specifically sought "To protect the character" of the property and thus "... maintain the stability and property values of residential, business and industrial areas within the Town, including areas and properties of historic value;" In fact, we believe that this new community amenity has the potential to *increase* property values.
    d. Once again, our own goals match the purpose stated as: "To provide for the protection of the physical environment, including air quality, potential surface and ground drinking water supplies, and specific environmentally sensitive areas such as wetlands and watercourses and areas subject to flooding and/or erosion and sedimentation problems;" and we have done what seems prudent and necessary to accomplish this joint objective by designing thoughtfully and in accordance with sustainability principles.
    e. With the help of traffic consultants, we have proposed an access point to Route 195 that provides both a very safe entry and exit for cars and bicycle traffic. Further, within the site, we have pursued a non-linear parking area design that we believe will calm traffic and "...encourage safe and efficient vehicular and pedestrian facilities and circulation patterns and thereby avoid traffic hazards and congestion;"
    f. With the exception of being considered a protection against flooding, (it being undeveloped forest land),--our use, including our porous parking lot, may not specifically "... provide protection against fire, flood, explosion, hazardous materials and other, potential dangers ..." but we are confident that it will only very insignificantly increase the regional or local threat of any of these.
    g. Because this proposed use is all about trees, it is necessarily all about solar power. While we may at some point endeavor to power our temporary ticket and storage shed with solar panels, we intend let the trees get the best light first. The activity and use we are proposing gets people away from electronics and devices and into an environment that is naturally solar powered (photo-synthesis); so, indeed, the very enterprise itself is made possible by nothing other than "... the use of solar and other renewable forms of energy...;"
    h. The "...aesthetic considerations in designing..." our parking area was our first preoccupation on the site. Even as providing parking is an unfortunate concession to current transportation realities, we have sought to fashion the parking area so as to consider the topography, the existing trees, the small area of wetland soils, all the while accommodating safety vehicles, and our desire to have it preserve and introduce an atmosphere of the woods and forest while attempting to make it as modest as possible. We have carried the same values with us when considering the color of the temporary ticket and storage shed, and even the placement and color of the portable toilets. We want nothing more than a project that is intimately "... compatible with the character of

the site and subject neighborhood, and promote[s] the value of properties in the neighborhood and the Town;" In fact, we would like our aesthetic to spill outwards into the neighborhood.

i. Even as the zoning regulations already permit recreational uses in this zone, by its very nature, this proposed use--in part because of it's minimal on-site changes--comes very close to its current use, that of productive Connecticut forestland. But at the same time it increases its public value. Where purpose 9 of Article I suggests that the board should regulate "... with a view toward conserving the value of properties, encouraging a variety of housing and economic development opportunities, and encouraging compatible and appropriate uses of land within the various zones and throughout the town;" it would appear that this proposal is a perfect opportunity to act on that purpose.

j. With a buffer of land and trees along what is already a busy and sometimes noisy road, the significant distance from neighboring residences, and considering the character of the proposed use, goal 10, "To protect residents from nuisances from sight and/or sound;" is both met and moot.

26. Location and size of the proposed use and the nature and intensity of use in relation to the size of the lot will be in harmony with the orderly development of the town and compatible with other existing uses: With the exception of the parking area, and the addition of people and some obstacles in the trees, the role of this piece of Mansfield will not change. The site location is noted on an accompanying map, but to be honest, it's along a nondescript and generally unnoticed stretch of route 195. It is represented by some 670 feet of frontage on the south side of 195, about a half-mile south of route 32. The property is forested, and excepting a meandering gravel parking lot in the woods and access to it, under the proposed use the site will remain forested. The site of the project itself is approximately 10 acres, or barely more than 8% of the entire parcel, which totals about 118 acres and extends about half-a-mile south to Forest Road.

    The proposed use is for a seasonal recreational activity: an aerial forest challenge course. This will entail suspending "elements" or uniquely configured and challenging "bridges" between trees. Adventurous people will then seek to successfully traverse the aerial courses among and through the trees. The use will include a minimum network of paths below the aerial courses so that people not inclined to the challenge may vicariously enjoy the course, observe climbers, and simply experience the out of doors.

    Is it compatible with other existing uses? Yes. In terms of the land and the forest itself, by and large, the proposed use is really the current use: a healthy, growing, Connecticut forest. It will simply now include people and some wire and wooden and rope bridges between trees. Were there no sign at the entrance, it would look about as it does today and you wouldn't know it was there.

27. Aesthetic Quality: Proper consideration to aesthetic quality, landscaping, natural features: Overall, we are seeking to maintain the existing aesthetic of the site and the property. For reasons of visitor safety, however, we will remove or fell dead branches and trees within the area of the courses. We have laid out a parking area that curves around and among trees we wanted to preserve and did our best not to fight the topography with fills or cuts. Our intention is to leave intact the small remnants of stone walls that exist and where we have paths, we will cover them with wood-chips harvested on-site. One feature we will include is interpretive signs so that visitors may benefit not just from being there and being out of doors, but learn about the natural features that surround them. The temporary ticket and storage shed will be painted to blend in and complement the surroundings and the discretely-placed portable toilets will be of a compatible color and likely shielded either by natural vegetation or other aesthetically appropriate means.

SEASONAL AERIAL FOREST ROPES COURSE

ROUTE 195 · MANSFIELD · CONNECTICUT

SEPTEMBER 25, 2012

PREPARED FOR

KUEFFNER / STODDARD
ROUTE 195
MANSFIELD, CONNECTICUT

PREPARED BY

FUSS & O'NEILL

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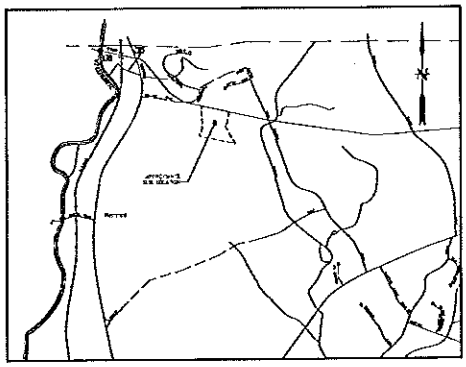
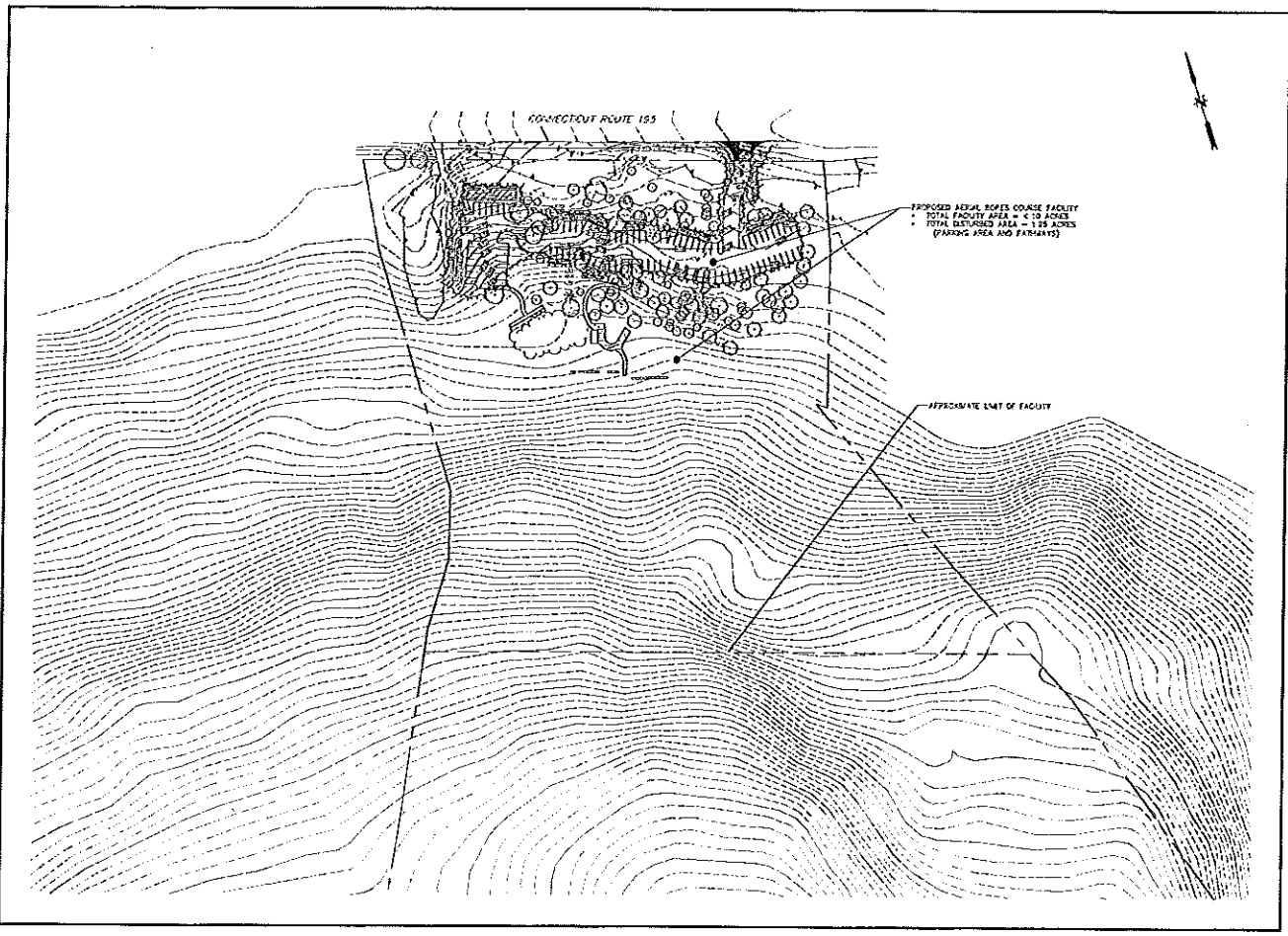
SHEET INDEX



LOCATION MAP

CRAIG M. LAPINSKI, P.E., LEED AP — LICENSE #23635

GI-001



FUSS & O'NEILL

KUEFFNER / STODDARD

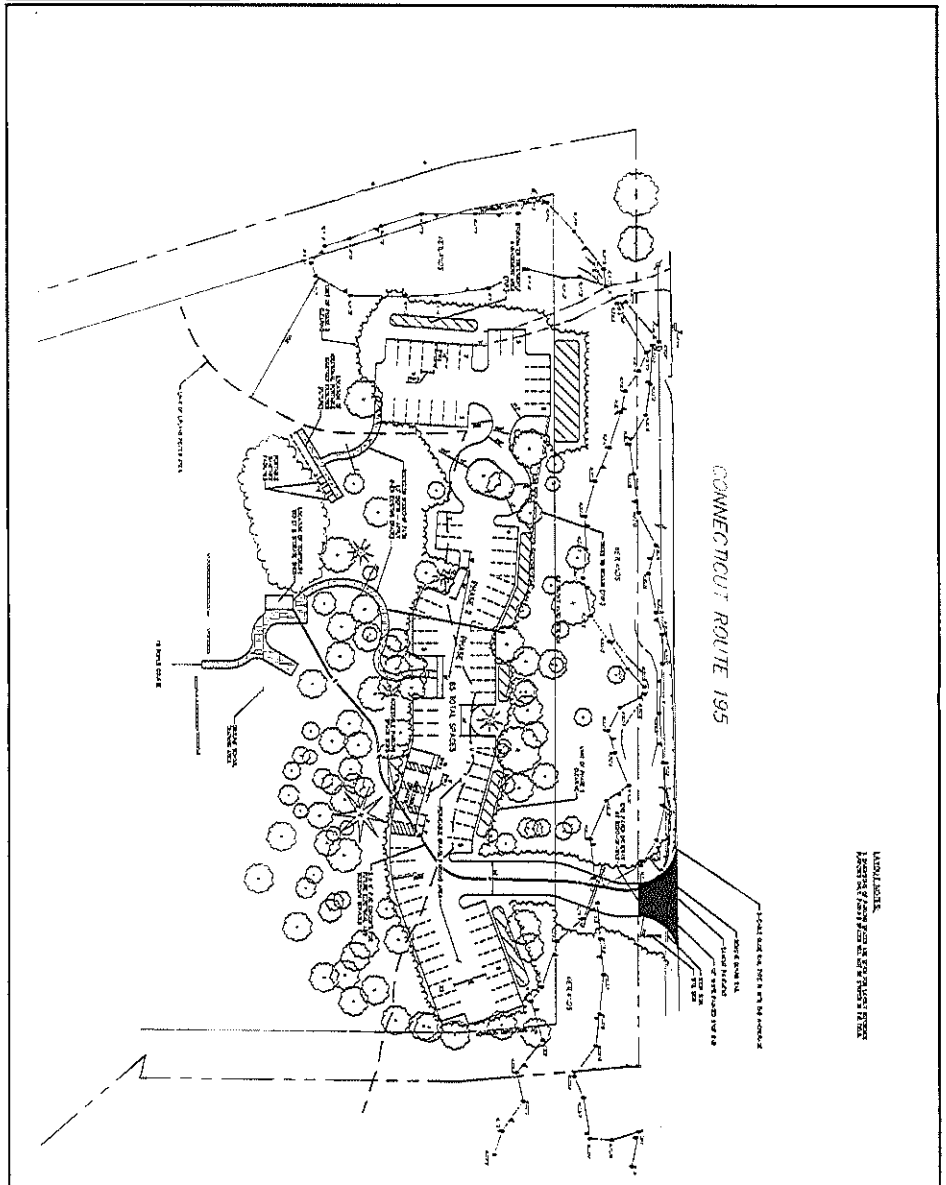
OVERALL SITE PLAN

SEASONAL AERIAL FOREST ROPES COURSE

MANSFIELD

CONNECTICUT

GI-401



CS-101

KUEPPNER / STODDARD

SITE LAYOUT PLAN

SEASONAL AERIAL FOREST ROPES COURSE

MANSFIELD CONNECTICUT

FUSS & O'NEILL

GRAPHIC SCALE

KUEFFNER / STODDARD

EROSION CONTROL PLAN

SEASONAL AERIAL FOREST ROPES COURSE

MANSFIELD CONNECTICUT

FUSS & O'NEILL

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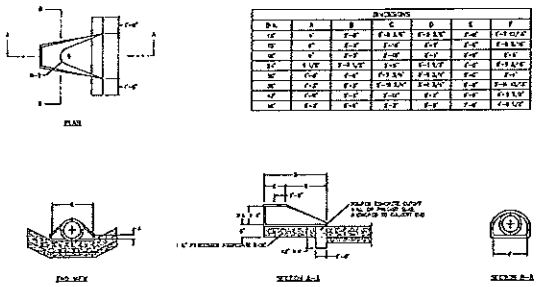
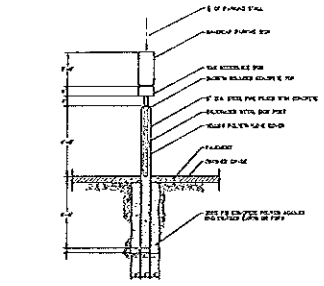


CONCRETE CULVERT END
NOT TO SCALE



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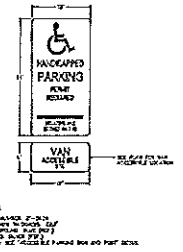

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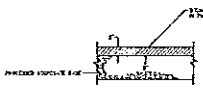

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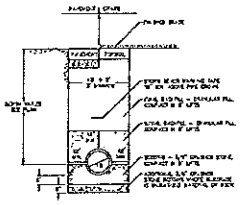
NOT TO SCALE



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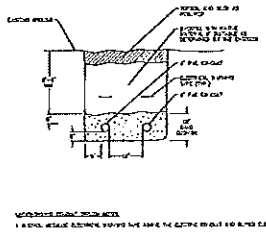

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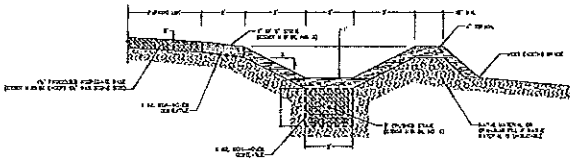

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SCALE: N.T.S.

FUSS & O'NEILL

KLOEPFER/STODDARD
SITE DETAILS
SEASONAL AERIAL ROPES COURSE
MANSFIELD CONNECTICUT

CD-502

PAGE
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SEASONAL AERIAL FOREST ROPES COURSE

ROUTE 195 · MANSFIELD · CONNECTICUT

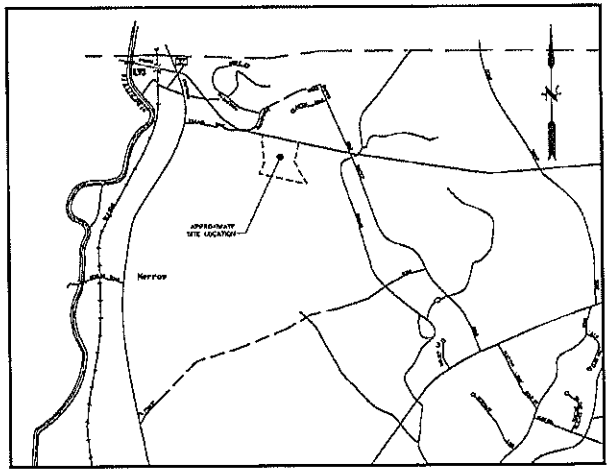
SEPTEMBER 25, 2012

PREPARED FOR

KUEFFNER / STODDARD
ROUTE 195
MANSFIELD, CONNECTICUT

PREPARED BY

FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com



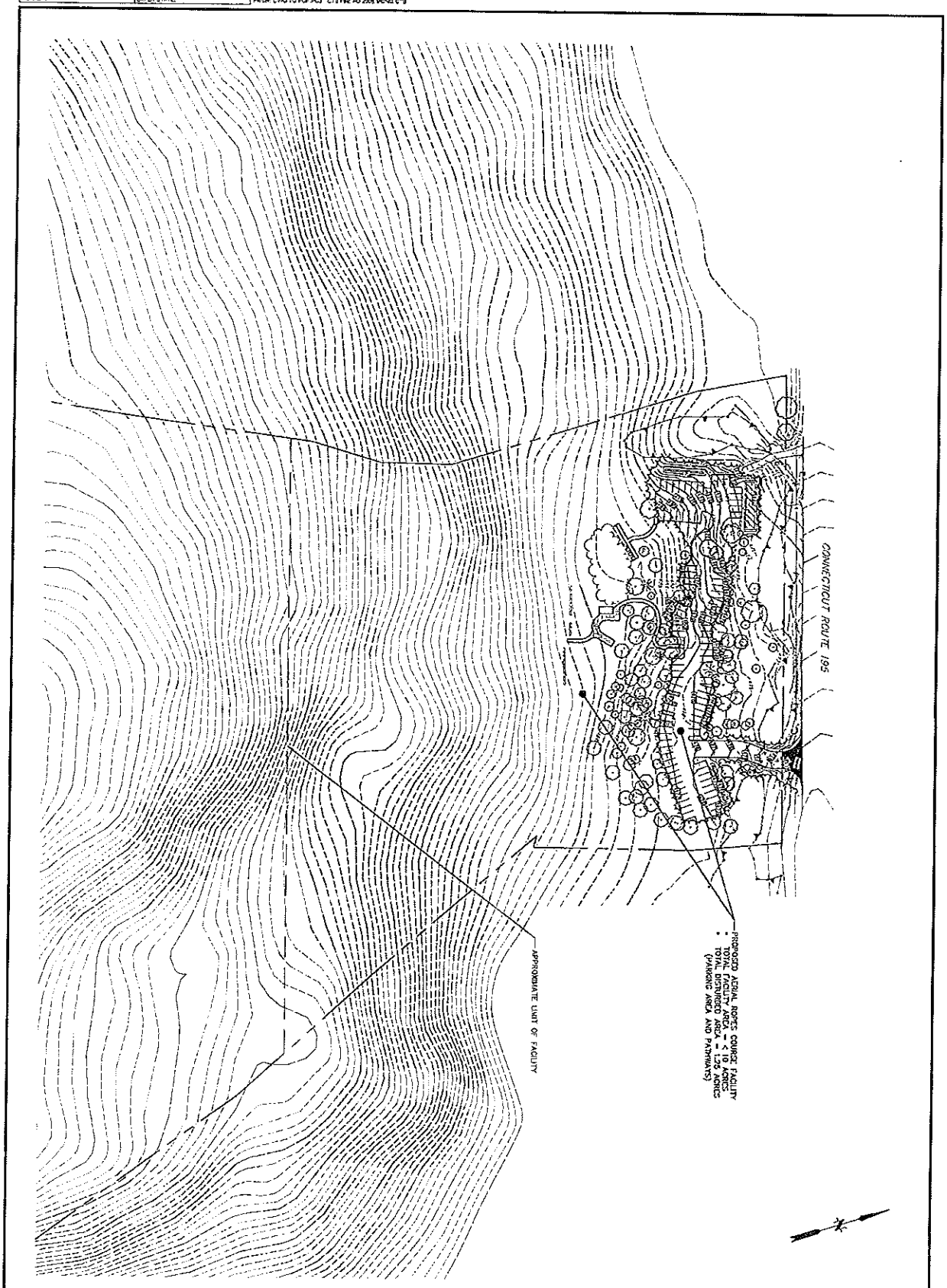
LOCATION MAP
SCALE: 1" = 1000'

SHEET INDEX

CRAIG M. LAPINSKI, P.E., LEED-AP — LICENSE #23625

PROJ. No.: 20111004.A00
DATE: 09/25/2012

GI-001



KUEFFNER / STODDARD

OVERALL SITE PLAN

SEASONAL AERIAL FOREST ROPES COURSE

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SCALE
HORZ: 1" = 50'
VERT:
DATUM
HORZ: NAD 83
VERT: NAVD 88
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GRAPHIC SCALE

No.	DATE	DESCRIPTION	DRAWN BY	REVIEWED

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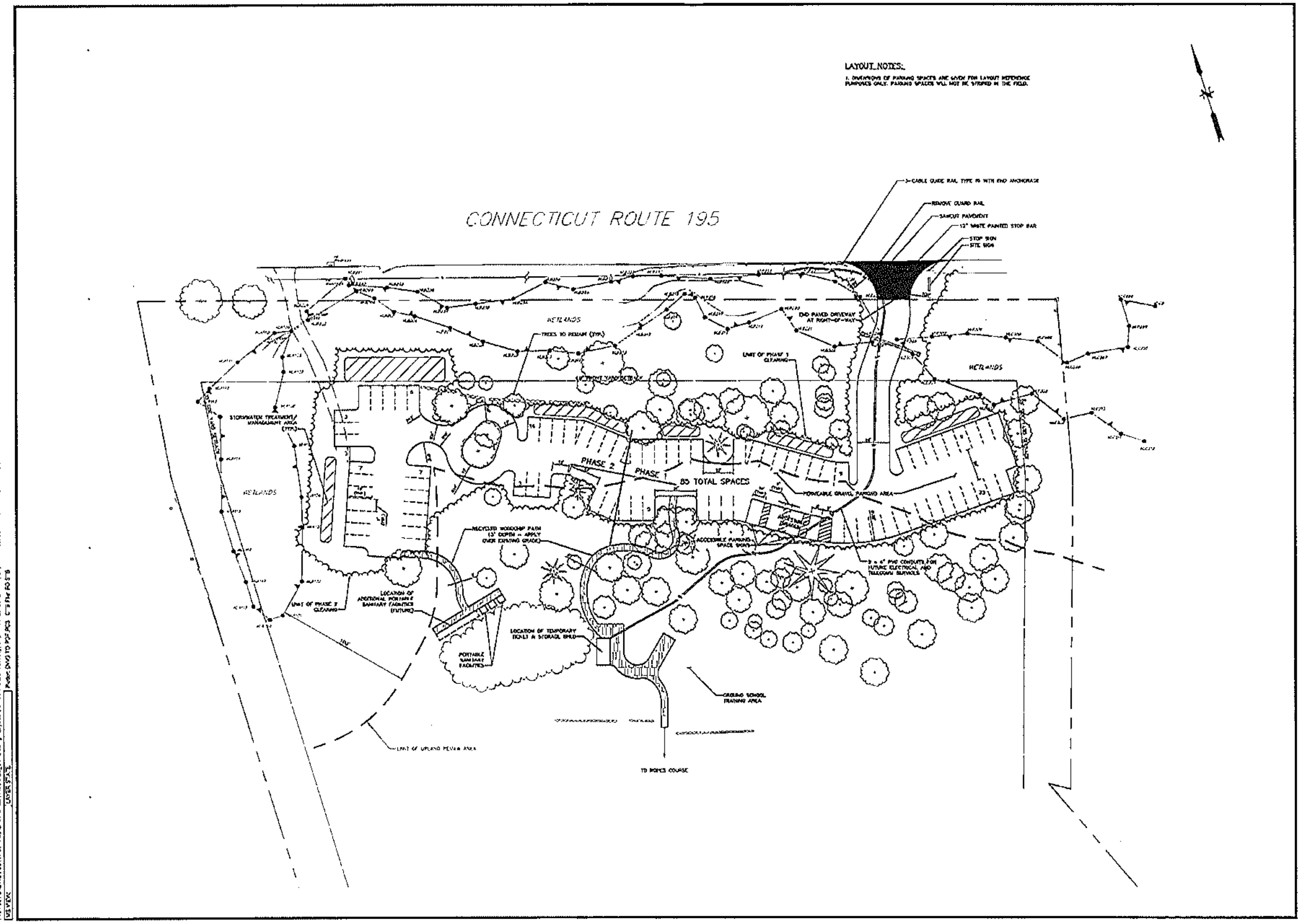

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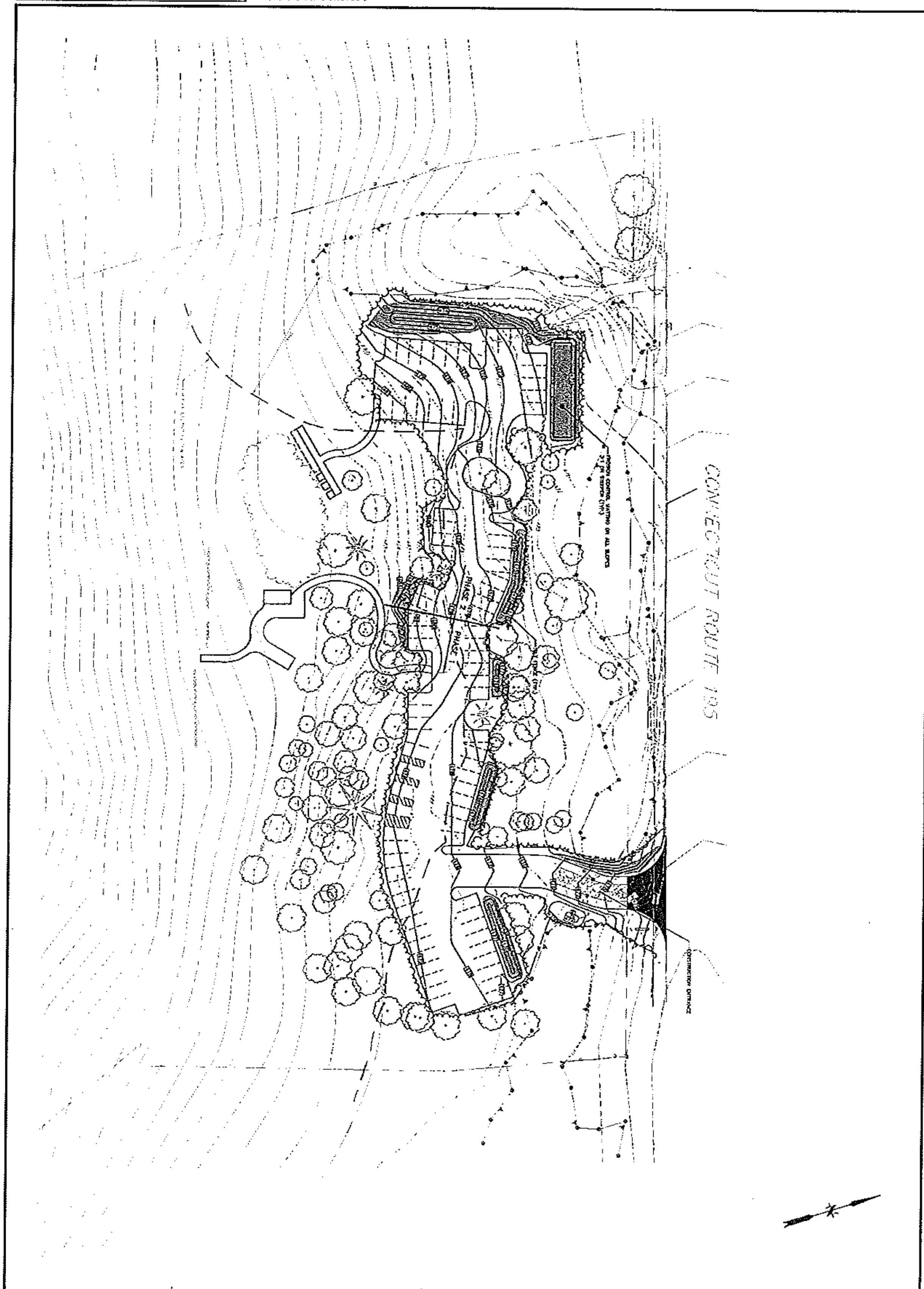
SITE LAYOUT PLAN

SEASONAL AERIAL FOREST ROPES COURSE

MANSFIELD CONNECTICUT

CS-101



KUEFFNER / STODDARD

EROSION CONTROL PLAN

SEASONAL AERIAL FOREST ROPES COURSE

MANSFIELD CONNECTICUT

FUSS & O'NEILL

SCALE: HORZ.: 1" = 30' VERT.:

DATUM: HORZ.: NAD 83 VERT.: NAVD 88

GRAPHIC SCALE

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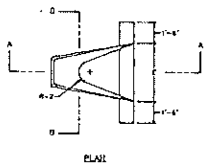

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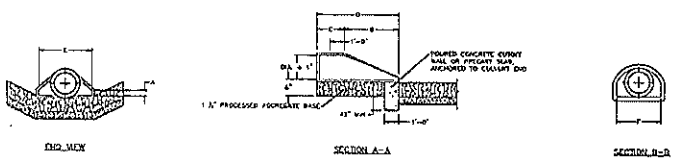
15"	6"	2'-3"	3'-10"	6'-1"	3'-4"	2'-0 9/16"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2'-6"
24"	9 1/2"	3'-7 1/2"	5'-6"	6'-1 1/2"	4'-0"	2'-9 3/16"
30"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3'-1"
36"	1'-3"	5'-3"	2'-10 3/4"	6'-1 3/4"	6'-0"	3'-11 11/16"
42"	1'-6"	5'-3"	2'-10"	8'-3"	6'-6"	4'-5 7/8"
48"	2'-0"	6'-0"	2'-3"	6'-3"	7'-0"	4'-8 1/2"



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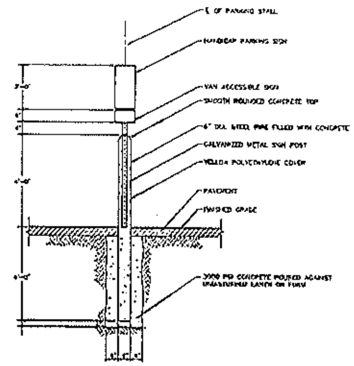

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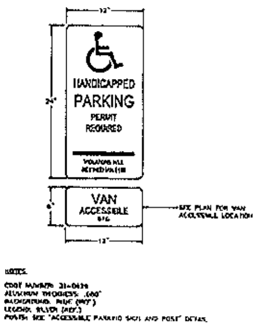

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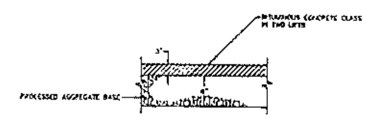

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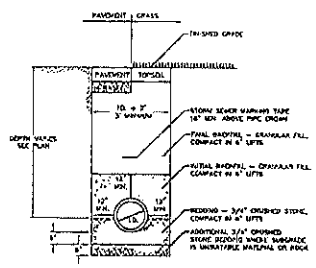

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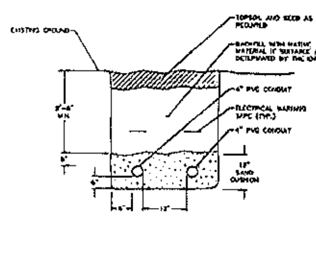
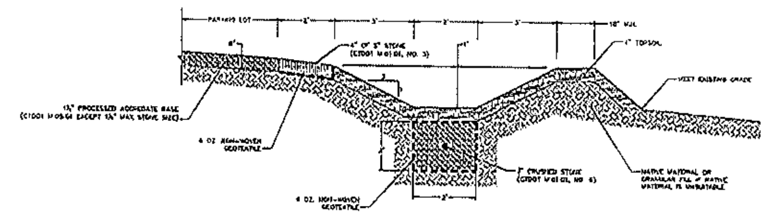


UNDERGROUND CONDUIT TRENCH NOTES
1. INSTALL METALLIC ELECTRICAL WARNING TAPE ABOVE THE ELECTRIC CONDUIT AND BURIED ELECTRIC WIRING

UNDERGROUND CONDUIT TRENCH DETAIL
NOT TO SCALE



PARKING LOT AND SWALE SECTION
SCALE: N.T.S.

KUEFFER / STODDARD
SITE DETAILS
SEASONAL AERIAL ROPES COURSE
MANSFIELD CONNECTICUT

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Mansfield Open Space Preservation Committee

DRAFT Minutes of September 18, 2012 meeting

Members present: Jim Morrow (chair), Michael Soares, Ken Feathers, Vicky Wetherell, Quentin Kessel, Jennifer Kaufman (staff) and Linda Painter (staff).

1. Meeting was called to order at 7:35.

2. Vicky was appointed acting secretary.

3. Minutes of the August 21, 2012 meeting were approved.

New Business

4. *State Plan of Conservation and Development (POCD)* Linda Painter briefed the committee about the state's draft map of priority conservation and priority development areas. The committee recommended several changes so that the state's POCD map will more closely reflect the Town's priorities.

Old Business

5. *Sauve presubdivision review* The committee reviewed maps and discussed the combined Site Analysis Assessment/Conceptual Layout Plan. As a result of the field trip on August 28, the committee is recommending an agricultural easement to retain the agricultural use of the proposed open space areas.

6. *Executive Session* The committee voted to go into Executive Session at 8:45 and voted to come out of Executive Session at 9:25.

7. Meeting adjourned at 9:30.

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DRAFT MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
Monday, October 1, 2012
Council Chamber, Audrey P. Beck Municipal Building

Members present:	J. Goodwin (Chairman), B. Chandy, R. Hall (7:15pm-10:12pm), K. Holt, G. Lewis, B. Pociask, K. Rawn, B. Ryan
Members absent:	P. Plante,
Alternates present:	A. Marcellino, V. Ward, S. Westa
Staff Present:	Linda Painter, Director of Planning and Development

Chairman Goodwin called the meeting to order at 7:15 p.m., appointing Marcellino to act in Plante's absence.

Minutes:
9-4-12 Meeting Minutes- Ryan MOVED, Rawn seconded, to approve the 9/4/12 meeting minutes as written. MOTION PASSED with all in favor except Hall who was disqualified. Lewis noted for the record that he listened to the recording.
9-19-12 Field Trip Minutes- Ryan MOVED, Holt seconded, to approve the 9/18/12 field trip meeting minutes as written. MOTION PASSED with Goodwin, Holt, Marcellino and Ryan in favor and all others disqualified.

Zoning Agent's Report: Noted. Commissioner Hall questioned if the PZC has any control over the use of the lights at the E.C.S.U. ballfield on Mansfield City Road, noting that it is difficult for drivers along Mansfield City Road to see when the lights are shining.

Public Hearings:

New Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312
Chairman Goodwin opened the Public Hearing at 7:17 p.m. Members present were Goodwin, Chandy, Hall, Holt, Lewis, Pociask, Rawn, Ryan, and alternates Marcellino, Ward and Westa. Marcellino was appointed to act. Linda Painter, Director of Planning and Development read the legal notice as it appeared in the Chronicle on 9-18-12 and 9-26-12 and noted the following communications received and distributed to the Commission members; application and supplemental material submitted on 8-30-12 & 9-28-12; 3-5-12 report from David T. Faist, PE of Faist Engineering Re: Site Drainage Improvement's; 5-3-12 Perc Test Report from Geoffrey Havens, RS, EHHD; 8-31-12 report from David T. Faist, PE of Faist Engineering Re: Sanitation Report and Aquifer Area Performance Standards; 9-19-2012 Referral from PZC to staff and commissions; 9-25-12 report from Fran Raiola, Assistant Chief/Deputy Fire Marshal; 9-26-12 report from Grant Meitzler, Assistant Town Engineer; 9-27-12 report from Linda Painter, Director of Planning and Development; 9-28-12 letter of support from Rudy J. Favretti;a 10-1-12 report from Geoffrey Havens, RS, EHHD; RE: Subsurface Sewage Disposal System Plan Approval; 10-1-12 email of opposition from Amber Johnston, 477 Storrs Road; and 10-1-12 letter of opposition from Bill Petix, 4 Echo Road.

Michael Healey, owner/applicant, summarized his resume and the history of the property and buildings. He reviewed his proposed plans for the barn and the repairs necessary to maintain the structure. Healey proposed using the barn as a place of assembly and banquet hall. The hours of operation will be predominantly when the other uses on the property are closed. The office spaces are typically open Monday-Friday 8am to 5pm. The banquet hall proposed hours of operation are: Friday 6pm -12am, Saturday 11am – 12am, and Sunday 11am -10 pm. Occasionally the banquet hall may be used during the week in the evening. He stated that all music will cease by 11:30pm and the facility will be vacated by 12 a. m. Healey stated that the seating plan allows for an estimated 170 guests. He discussed the parking layout and overflow parking plan for the 2.6 acre site. He stated the septic system has been designed for a peak flow of 200 people. He reviewed the landscape plan, the proposed drywells to handle the roof run-

off, the guest suite, a one bedroom apartment to be used by possibly the bride and groom during the function, his sound testing and a plan for an outdoor, lighted gazebo for potential outdoor ceremonies. Chairman Goodwin noted that the public hearing will be kept open in order to allow for all interested parties to speak and for the Commission to process the information presented. Members posed preliminary questions to the applicant regarding: the sound controls (insulation) for the barn; Historic Village Guidelines; Hours of Operation; and the sound study.

Crawford Elder, 1017 Warrenville Road expressed concern about the noise and sounds carrying in Mansfield Center, and noted the history of the area, the cemetery and wetlands bogs adjacent to the site. Bill Petix, 4 Echo Road expressed concerns about the noise and the change to the character and nature of Mansfield Center. He feels this will be a nuisance to the residents.
Jennifer Oliver, 42 Cemetery Road feels this application will change the character of Mansfield Center because of the noise and traffic. She requested a professional noise study be conducted and regular reviews of the permit if approved.

Chairman Goodwin adjourned the public hearing at 9:10 pm and noted that it will be continued at the 10/15/12 meeting.

Application to Amend the Mansfield Zoning Map-Storrs Center Special Design District/Master Plan, Storrs Center Alliance, LLC, owner/applicant: PZC File #1246-10
Chairman Goodwin opened the Public Hearing at 9:18 p.m. Members present were Goodwin, Chandy, Hall, Holt, Lewis, Pociask, Rawn, Ryan, and alternates Marcellino, Ward and Westa. Marcellino was appointed to act. Linda Painter, Director of Planning and Development read the legal notice as it appeared in the Chronicle on 9-18-12 and 9-26-12 and noted the following communications received and distributed to the Commission members; 8-29-12 application and supplemental material; 9-19-2012 referral from PZC to staff and commissions; 9-24-2012 letter of support from Philip Lodewick, President of Mansfield Downtown Partnership Board of Directors; 9-19-2012 set of draft minutes from the Conservation Commission; 9-27-12 report from Linda Painter, Director of Planning and Development; 9-30-12 email of opposition from Sherry Hilding, 104 Courtyard Lane; 10-1-12 letter of support from Michael Kirk, Deputy Chief of Staff at UConn; and 10-1-12 letter from John Morey, 129 Courtyard Lane (distributed this evening).

Macon Toledano, Lleyland Alliance, reviewed and submitted a powerpoint presentation outlining the details of the Phase 4 project. He noted the differences from the previously approved plan, highlighting the reduction in height and dimensions of the newly proposed structure.

Geoff Fitzgerald, BL Companies, reviewed the stormwater management design which outlets to a bio-filter system, adding that with this new plan, there is a slight reduction in stormwater runoff from the previously approved plan.

Martin Fox, 1 Storrs Heights, supports the application. He stated that it will be nice to have a small town grocery store within walking distance of his home and feels this downsized plan is better and more sustainable than the prior plan. Fox added that the plans for the café and pergola create a nice "community area" that fits well with the overall plan.

Ida Millman, Glen Ridge, supports the application and is looking forward to having this within walking distance of her home. She hopes they will carry organic food.

Mary Hirsch, 106 Courtyard Lane, stated that she has lived in Mansfield for over 35 years and moved to Courtyard to be closer and have access to the Downtown area. She expressed concerns about the views of the open parking lot for those who live in Courtyard and asked that they consider reducing the size of the

parking lot and number of spaces to encourage pedestrian instead of vehicular traffic. She also hopes there will be a sufficient tree and fence buffer along Route 195 and Post Office Road to protect the views of those who reside within the Courtyard community. Lastly, she is concerned with the amount of trucks entering and exiting the site and requested that the delivery times be monitored.

Mayor Betsey Paterson, 79 Independence Drive, supports the application.

Melissa Bugdal, 9 Dog Lane at Oak Square, is excited to live in the Downtown area and having a grocery store within walking distance is ideal for all who reside in the area.

Kristen Schwab, 6 Mohegan Square, supports the application and commended the developers on the design. She noted that the grading of the parking area will be raised higher and residents at Courtyard will be unable to see the parking lot, and that street landscaping is crucial for the area.

Peter Millman, 122 Dog Lane, supports the application and likes that the store will be within walking distance resulting in less dependence on cars/gas therefore reducing Mansfield's carbon footprint. He stated that he likes Price Chopper as a company and thinks it's a good fit for our community.

Sherry Hilding, 104 Courtyard Lane, does not support this application added that she like the original plan for an underground garage, not surface parking as now proposed. She added that if approved, a landscaping buffer along Post Office Road will be crucial.

Manny Haidous, 102 Cedar Swamp Road, is in favor of the application and Price Chopper as a neighbor. He stated that he is working with the developer to address some issues that have arisen.

Chairman Goodwin adjourned the public hearing at 10:12 pm and noted that it will be continued at the 10/15/12 meeting.

** At 10:12 p.m. Ros Hall excused himself from the meeting. Goodwin appointed Ward to act in his absence.

Old Business:

a. **New Special Permit Application, Assembly/Banquet Hall and associated uses, 476 Storrs Road; Healey, owner/applicant: PZC File #1312**
Item tabled-public hearing continued.

b. **Application to Amend the Mansfield Zoning Map-Storrs Center Special Design District/Master Plan, Storrs Center Alliance, LLC, owner/applicant: PZC File #1246-10**
Item tabled-public hearing continued.

c. **New Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2**
Item tabled-10/15/12 public hearing scheduled.

d. **Subdivision Pre-Application: North Windham Road, PZC File #1311**
Linda Painter, Director of Planning and Development summarized her memo and discussed the Open Space Preservation Committee's suggestions for open space. Rob Hellstrom, representing the applicant, stated that they want to do what is best and have no objection to the recommendation of the OSPC. Rawn and Goodwin felt the OSPC report was thorough and helpful and they like its proposal. Holt was not in favor of the OSPC proposal and likes the idea of having woods and a field. Hellstrom stated that the house and all structures on the property are not salvageable and he will explore the OSPC recommendations with the owner.

e. **Draft Connecticut Conservation and Development Policies Plan (2013-2018)**
Linda Painter, Director of Planning and Development provided an overview of the proposed locational guide map for the 2013-2018 Connecticut Conservation and Development Policies Plan and identified areas of

concern based on the methodology used to identify Priority Development Areas (PDA) and Priority Conservation Areas (PCA). Holt requested that PZC comments to the Office of Policy and Management include changes to the map to remove the PDA designation in key locations such as Horsebarn Hill, along Route 195/Storrs Road, and Spring Manor Farm. Westa suggested that the east side of the Perkins Corner area be added to the PDA to be consistent with the town's Plan of Conservation and Development. Painter will draft letter to OPM for the Chair's signature identifying concerns with methodology and include a map with areas to be removed or added from the Priority Development Area designation.

f. **Other**

New Business:

a. **Eastbrook Mall Modification Request, PZC File #1307**
Item tabled at the request of the applicant.

b. **Special Permit Application, Seasonal Aerial Forest Ropes Course, west of Baxter Road on Storrs Road; Kueffner/Stoddard, owner/applicant: PZC File #1313**
Holt MOVED, Ryan seconded, to receive the Special Permit application (file #1313) submitted by Christopher Kueffner and Lynn Stoddard for a Seasonal Aerial Forest Ropes Course on property located at West of Baxter Road on Storrs Road as shown on plans dated 9-25-12 as shown and described in application submissions, and to refer said application to staff and committees, for review and comments and to set a Public Hearing for 11-5-12. MOTION PASSED UNANIMOUSLY.

c. **Live Music Permit Renewals**
Ryan MOVED, Holt seconded, that the PZC schedule a public hearing for November 5, 2012 to hear applications for the renewal of Special Permits for the use of Live Music and also extend the current permit period until November 20, 2012. MOTION PASSED UNANIMOUSLY.

d. **E.O. Smith Lighting Request**
Ryan MOVED, Holt seconded, that the Planning and Zoning Commission hereby authorizes the use of temporary lights by E.O. Smith High School for one evening football game each year pursuant to the details provided in the letter from Superintendent Bruce Silva dated September 25, 2012. MOTION PASSED UNANIMOUSLY.

e. **Appointment of Rudy Favretti to Design Review Panel**
Holt MOVED, Ward seconded, to appoint Rudy J. Favretti as a member of the Design Review Panel to fill an unexpired term until August 1, 2013. MOTION PASSED UNANIMOUSLY.

Communications and Bills: A field trip was scheduled for Wednesday, October 10, 2012.

Adjournment: The meeting was adjourned at 10:53 p.m. by the chairman.

Respectfully submitted,

Katherine Holt, Secretary

DRAFT MINUTES

MANSFIELD PLANNING AND ZONING COMMISSION
INLAND WETLANDS AGENCY
CONSERVATION COMMISSION
FIELD TRIP
Special Meeting
Wednesday, October 10, 2012

Members present:	J. Goodwin, B. Chandy, K. Holt, G. Lewis, A. Marcellino, B. Ryan, V. Ward, S. Westa
Staff present:	G. Meitzler, Wetlands Agent/Assistant Town Engineer C. Hirsch, Zoning Agent

The field trip began at 3:30 p.m.

1. Kueffner/Stoddard – Storrs Road -Seasonal Aerial Ropes Course-W1504, PZC File #1313
   Members were met on site by property owner Lynn Stoddard. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 4:20 p.m.

Respectfully submitted,

K. Holt, Secretary

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting on Monday, October 1, 2012
Council Chambers, Audrey P. Beck Municipal Building

Members present:	J. Goodwin (Chairman), B. Chandy, R. Hall, K. Holt, G. Lewis (7:04 p.m.), B. Pociask, K. Rawn, B. Ryan
Members absent:	P. Plante
Alternates present:	A. Marcellino, V. Ward, S. Westa
Staff present:	Grant Meitzler, Wetlands Agent

Chairman Goodwin called the meeting to order at 7:00 p.m., and appointed Marcellino to act in Plante's absence and Ward to act until Lewis' arrival.

Minutes:
9-4-12 – Regular Meeting- Ryan MOVED, Ward seconded, to approve the 9-4-12 minutes as written. MOTION PASSED with all in favor except Hall who disqualified himself.
9-12-12 – Field Trip Meeting- Ryan MOVED, Ward seconded, to approve the 9-12-12 field trip minutes as written. MOTION PASSED with Goodwin, Holt, Marcellino, Ryan and Ward in favor and all others disqualified.

Communications:
The 9-19-12 Draft Minutes of the Conservation Commission and the 9-26-12 Wetlands Agent's Monthly Business report was noted.

Public Hearings:
None.

Old Business:
W1501 - Block - Hanks Hill Rd - unit replacement in 150' area
Holt MOVED, Ryan seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Michael Block of Block Properties, LLC, (File W1501) for the replacement of an existing single-wide mobile home with a double-wide unit on Lot 22, on property owned by the applicant, located at 8-22 Hanks Hill Road, as shown on plans revised to 8/22/12, and as described in other application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned upon the following provisions being met:

1. Although erosion and sedimentation controls may not be needed, care should be taken when grading existing lawn areas next to the new unit;
2. This approval does not extend to erecting a new shed on an old foundation on the opposite side of the brook.

This approval is valid for a period of five years (until October 1, 2017), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this agency for further review and comment.
MOTION PASSED with all in favor except Hall who was disqualified.

1502 - Wetlands Violation Ordinance & new statute changes
Item was tabled.

New Business:

W1504 - Kueffner - Rte 195 – Tree Scape

Ryan MOVED, Holt seconded, to receive the application submitted by Christopher Kueffner and Lynn Stoddard (W1504) for a tree-scape, driveway and parking lot, on property located on the south side of Storrs Road, ½ mile south of Route 32 and west of Baxter, as shown on plans dated 9-25-12 as shown and described in application submissions, and to refer said application to staff and committees, for review and comments.
MOTION PASSED UNANIMOUSLY.

W1503 - Town of Mansfield - Sunny Acres Park

Holt MOVED, Hall seconded, to approve the request for exemption (file W1503), submitted by the Town of Mansfield acting through Curt Vincente its Recreation Director, for replacement of playscape equipment at the Sunny Acres Park located on Meadowbrook Lane, proposed work for which application materials and sketch mapping dated 9.12.2012 have been submitted.

This action is based on a finding of no significant impact, and is conditioned on the following provisions being met:

1. All erosion and sediment controls as described in the application shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized.
2. The future parking area noted in the application submissions shall require a wetlands permit application before construction is started on this improvement which requires substantial grading in lawn areas within 150' of wetlands located on the adjacent property.

This exemption is granted under the provisions of Section 4.1 B (second). Any change in the work proposed is to come back before the Agency for review.
MOTION PASSED UNANIMOUSLY.

W1492 - Healey - barn renovation

Holt MOVED, Pociask seconded, to approve the application for a modification to the March 8, 2011 wetlands approval (file W1492), submitted by Michael and Mary Healey for barn renovation and improvements to be located on property owned by Michael and Mary Healey, located at 476 Storrs Road, as depicted on a plan dated January 17, 2012 and bearing latest revision date 9.25.2012.

This action is based on a finding of no significant impact, and is conditioned on the following provisions being met:

1. All erosion and sediment controls as described in the application shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized.
2. All conditions of the original approval are to remain in effect.

This modification is an amendment to the original approval and is made a part thereof, and is to be valid for a period of five years (until October 1, 2017), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.
MOTION PASSED UNANIMOUSLY.

W1490 - Eastbrook Mall - retaining wall changes

Tabled.

Adjournment:

The Chairman declared the meeting adjourned at 7:12 p.m.

Respectfully submitted,
Katherine Holt, Secretary

Memorandum: September 26, 2012
To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: Monthly Business

W1419 - Chernushek - hearing on Order

3.10.09: The hearing on the Order remains open and should continue until the permit application under consideration is acted upon.
(The Order was dropped on approval of the application required in the Order.)

4.30.09: Former rye grass seeding is beginning to show green. I spoke with Mr. Chernushek this afternoon who indicated health problems that delayed his starting but indicated he will be working this weekend. I will update on this Monday evening.

5.26.09: A light cover of grass growth has come in. Mr. Chernushek indicates health problems and two related deaths have delayed his start of work since the permit approval was granted. It appears that some light work has started. He has further indicated that he will start a vacation on June 22, 2009 to finish the work.

6.13.09: Work is underway.

6.21.09: Bulldozer work has been completed - finish work remains. The additional silt fencing has been placed along the northerly wetlands crossing, and the additional pipe under the southerly crossing has been installed. Remaining work includes finish grading along edges, spreading stockpiled topsoil, and establishing grass growth.

7.01.09: I spoke with Mr. Chernushek who indicated he expects work to be completed by September 1, 2009. (Site photo attached).

9.03.09: Mr. Chernushek has been working on levelling and grading. The formerly seeded areas have become fairly thick growth surrounding the central wet areas. He has further indicated that with the combination of weather and the slower moving of earth with the payloader compared to the earlier rented bulldozer has led him to contact contractors for earth moving estimates which have not yet been received. The site is not yet finished but has remained quite stable.

9.12.09: I met with Mr. Chernushek today and discussed again what his plans are for stabilizing this work site.

10.01.09: Mr. Chernushek indicated he has not heard back from the contractor he had spoken with about removing material, and is in progress of contacting others. In discussion is removal of material from the site either within the 100 cubic yard limit or obtaining a permit for such removal.

10.28.09: Mr. Chernushek has indicated he has made arrangements with DeSiato Sand & Gravel to remove 750 cubic yards of material. Staff is in the process of clarifying permit requirements.

W1445 - Chernushek - application for gravel removal from site

11.30.09: Packet of information representing submissions by Mr. Chernushek, Mr. DeSiato and myself is in this agenda packet as Mr. Chernusheks's request for modification.

12.29.09: Preparation of required information for PZC special permit application is in progress. Tabling any action until the February 1, 2010 meeting is recommended.

1.12.10: 65 day extension of time received.

2.18.10: No new information has been received.

2.25.10: This application has been **withdrawn.**
6.30.10: As viewed from the adjacent property, the upstream and downstream areas have grown to a decent protected surface. I did not see indication of sediment movement.
10.26.10: A sale of the East portion of the Chernushek property has been in negotiation.
12.27.10: The property exchange has been completed. The owner is now the neighboring property owner Bernie Brodin. He has indicated his intention to stabilize the area as weather permits.
4.25.11: Mr. Brodin indicates he is starting with grading and spreading hay and seed to stabilize disturbed areas.

Mansfield Auto Parts - Route 32
11.03.11: Inspection - two vehicles are within 25' of wetlands. Vehicle doors and a camper or trailer are stored in the extreme rear lot not approved by zoning for use.
11.30.11 Inspection - two vehicles are within 25' of wetlands. Employees indicate cars will be moved soon. Payloader repair parts are to be there later today and cars will be moved as soon as parts are installed.
Owner indicated in earlier discussion that the doors would be moved.
Rate of tire removal has increased with a company in Massachusetts removing them by truckload. At time of this discussion (about a week ago) nearly 2,000 tires had been removed from the lot by the railroad tracks.
12.07.11: Inspection - two vehicles are within 25' of wetlands. Payloader rerpairs not yet completed. Weekly inspections will be made until the two vehicles and doors are moved.
12.27.11: Inspection - 1 vehicle within 25' of wetlands - owner indicates it will be moved this week. Payloader is back in operation. Owner indicatees doors in "rear" lot will be moved this week. Large number of tires have been moved from lot by RR tracks - approximately 65% of tires have been removed.
2.01.12: Inspection - employee indicates payloader repair has had problems and the one car within 25' has not yet been moved. Tire removal has continued and about 90 percent of the tires have been removed. A truck from the company removing the tires arrived while I was at the site.
3.01.12: Inspection - owner indicates payloader is repaired. Owner indicates the one car within 25' will be moved. Tire removal is nearing completion.
3.28.12: On the way to see the car moved I found the payloader blocking the entrance drive to the rear area, with the mechanic under the hood. He indicated the new engine had stopped running on the way to move the remaining car. Inspection today showed the payloader in the same location.
5.01.12: Payloader remains in the same location with a bad motor.
5.17.12: Payloader and the one vehicle have been moved. There are no vehicles within 25' of wetlands.
6.22.12: Inspection - no vehicles are within 25' of wetlands.
7.10.12: Inspection - no vehicles are within 25' of wetlands.
8.16.12: Inspection - no vehicles are within 25' of wetlands.
9.19.12: Inspection - no vehicles are within 25' of wetlands.

Informationals:

Logging Notice - next to 298 Wormwood Hill Rd

For your information, this is a form starting to be used by at least the better logging companies. The land is a few hundred feet south of Hansen's pond on Wormwood Hill Rd. The indication is that there is one wetland crossing. This will be done with temporary bridge that will span the brook with each end resting on solid ground.

With arboriculture defined in the statutes as an exempt farming use, we have limited wetland permits for logging operations to the construction that may be required along with the tree cutting such as road construction or a constructed road crossing a wetland. Neither seems to apply here.

Agent Approval - Barton et al, 88 Mansfield Hollow Rd

This is for a 12'x 20' garden shed in the rear yard of the house at 88 Mansfield hollow Rd. The location staked is 80 feet from the edge of wetlands. This is to a garden shed placed on gravel and is within the existing yard areas.

PAGE
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Interstate Reliability Proj
-C: PZE, JWA, CE

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

September 17, 2012

The Connecticut Light and Power Company
P.O. Box 270
Hartford, CT 06141

Attn: Jeffrey R. Martin

Re: **Notice of Deficiency**

Application No:	WQC-201205697; SCEL-201205698
Application Type:	Section 401 Water Quality Certification; Stream Channel Encroachment Line Permit
Project:	Interstate Reliability Project
Town:	Lebanon, Columbia, Coventry, Mansfield, Chaplin, Hampton, Brooklyn, Pomfret, Killingly, Putnam and Thompson

Dear Mr. Martin:

The Department has completed an administrative review of the above referenced application received at the Department on July 24, 2012 and has determined that the application is deficient for processing. The following items must be submitted before staff can begin a detailed technical review of the application:

1. The applicant must notify the local municipal floodplain coordinator in those towns where activities being conducted within a FEMA designated flood zone could result in any change in water surface elevations or any change in flood water conveyance for significant storm events;

2. For those permanent culverts that cause water elevation increases during significant storm events, the applicant shall assess the impact of increased flooding on private property and notify the private property owners. The applicant should also determine the inundation area change / extent of increased flooding for the applicable storm events. In addition, the applicant must confirm that any / all flooding impacts resulting from installation of permanent crossings / culverts are limited to CL&P ROW and that respective property owners have been notified of potential flooding impacts;

3. Any temporary watercourse span or culvert required during the course of construction shall only be in place during that period of time in which active construction is on-going at the respective site and shall be removed immediately after construction has been completed at that site. Spans /

culverts shall also be removed during the course of construction whenever a significant storm event is forecast;

4. If proposed temporary culverts are expected to stay in-place for greater than 3 months, then the applicant must design the temporary hydraulic facilities for the derived temporary design discharge in compliance with the CT DOT Drainage manual guidelines;

5. The applicant should provide a typical design detail for temporary culvert installation. Where temporary culvert installations are associated with a road crossing through a wetland, detail shall show that the road is constructed using permeable road base materials at elevations approximating natural grade to assist in maintaining the existing hydrology in the area;

6. Each half scale site plan sheet should reference the NU BMP manual and those applicable BMP practices that will be implemented within the respective site plan areas;

7. In addition to those inspection and maintenance activities documented in the NU BMP Manual, the applicant must document the inspection and maintenance activities and schedule that will be implemented during construction and post-construction for any temporary and permanent stormwater management structures being proposed, particularly where temporary or permanent culverts are being proposed in wetland / watercourse areas;

8. For any pads being proposed within FEMA designated flood zones, the applicant shall provide a detail showing how construction mats (timber or other) will be protected from flotation in the event of a flood event;

9. Proposed new access roads shown on the site plan sheets must be differentiated between those that are temporary (i.e. shall be removed after construction and area restored to natural conditions) and those that are intended to be permanent. Site plans should also label proposed culverts as being temporary or permanent;

10. For those culverts proposed for road wetland crossings within flat wetland areas with no defined watercourse or channel, the applicant should consider the use of permeable road base materials as an alternative or in addition to the use of the culvert to help maintain existing hydrologic conditions. The applicant should provide a typical cross-section detail for access road proposed within wetland areas showing permeable road base at natural grade elevations;

11. It appears that not all roads currently existing within the CL&P ROW (as seen from aerial photographs, e.g. sheet 8, 16, 17, etc.) are being shown as existing on the site plan sheets. It also appears that the applicant is proposing new access roads in proximity to some of these existing roads. The applicant shall review site plan sheets, verify that all existing roads are accounted for on the plans, and confirm that these existing roads cannot be used in lieu of constructing new in those respective areas;

12. The applicant is advised to review the alignment of all proposed access roads and confirm that the road slopes within or adjacent to regulated resources do not exceed 15% slope;

13. The applicant must document the estimated amount of vegetative clearing that will be taking place within FEMA flood zones, floodways, and SCEL boundaries, as a possible impact to respective flood plains. The applicant's engineer shall certify that such vegetative clearings will not constitute a significant change in the hydraulic conditions for the respective reach of river associated with the clearing, and that such changes will not adversely affect river hydraulics nor degrade embankment stability;

14. On sheet 16 of the half scale plans, applicant shows a new access road parallel to existing access road. The applicant should justify need for new road in lieu of maintaining / improving the existing;

15. The applicant's engineer must sign and seal all full scale site plan sheets;

16. Work pads appear on steep slopes, sheets 7, 8, 9, 13, 14, 19, 22, 23, 35, 76, 120, etc. The applicant must specify what the maximum allowable slope is for work pad installation without need for regrading. Identify those areas on the site plan sheets where work pads are located on such slopes. The applicant can either relocate pad areas on the plans to avoid steep slopes or provide grading plans for respective areas showing the extent of grading activities and that such areas can be safely graded to allow for pad installation without additional impact to regulated areas. Note any possible resource impacts as a result of any new grading required;

17. 2,100 LF of new access road in Mansfield Hollow flood plain equates to ~780 CY of fill if 20ft wide and 6" thick. The applicant shall confirm that this fill will be removed after construction activities have been complete or otherwise account for the flood storage volume loss;

18. For all new roads proposed within FEMA designated floodplains, the applicant shall note / label on site plans where proposed road fill is intended to be removed following construction or when other alternate actions will be taken to compensate for flood storage loss (e.g. over-excavate and construct road at grade) in order to ensure that this information will be relayed to relevant contractors and environmental monitors;

19. In addition to floodplain boundaries, the applicant must delineate FEMA floodway boundaries on the site plan sheets;

20. The applicant should justify need for new access roads to pads for structures 152 and 153 when current access appears to exist from Drain Street;

21. The applicant should justify need for new access roads to pads on sheet 74 when existing access road exists;

22. Preliminary design / sizing must be provided for the temporary culvert proposed for Tanner Brook, sheet 77;

23. The applicant should consider rerouting new access road outside of wetlands on sheet 80 or otherwise provide justification for current alignment;

24. The applicant should justify need for two new parallel access roads through wetlands on sheet 81;

25. In those areas where permanent culvert installation is expected to partially or completely drain existing upstream ponds as a result of culvert installation (e.g. S20-29, S20-41D, etc.), show the approximate change in the expected average pond area and discuss potential resource impact. Consider / evaluate alternatives for such crossings including raising inlet pipe invert and road elevations to reduce breeding habitat and wetland impacts;

26. The applicant's engineer states that corrugated pipe was selected for all culverts because the increased Manning's Roughness slows water velocity. While it is true that corrugated pipe can help reduce water energy and the consequent erosive impacts, it also significantly decreases the capacity of the pipe (by more than half when compared with smooth pipe of the same size and slope) and therefore is not necessarily the best pipe material in all scenarios, particularly where the increased capacity could help reduce flooding impacts or where wetland / grading impacts can be reduced by the use of smaller pipe sizes. The use of alternate pipe materials shall be considered / evaluated for culverts wherever the potential benefits outweigh the costs with regard to flooding and wetland impacts;

27. The applicant shall justify the use of the Army Corps Riprap Protection methodology described in Engineering Manual 1110-2-1601 for outlet protection design. This procedure is typically for stability / protection of channel embankments and is usually not applicable to turbulent areas such as culvert outlets. The design procedure detailed in the DOT Drainage Manual for outlet protection (i.e. riprap aprons and preformed scour holes) should be used unless specific site conditions require the use of other methodologies. Outlet protection details must be provided on the site plans;

28. The applicant shall confirm that the installation of permanent access roads and culverts across any intermittent or perennial watercourse will not significantly decrease the storage capacity of upstream areas, and will thereby not increase peak flows discharging downstream for significant storm events;

29. The applicant's engineer shall confirm that all work proposed within FEMA designated flood hazard areas meets or exceeds minimum National Flood Insurance Program (NFIP) standards and requirements;

30. The applicant shall show how the island within Sawmill Brook will be accessed for vegetation clearing (Sheet 25), and

31. The application states that construction mats may not be used in wetlands if the ground is frozen. Construction mats shall be used in wetlands at all times and the application must be revised accordingly;

The information requested should be submitted to the Department within thirty (30) days of the date this Notice was issued. If this information is not provided, or if the information provided is inadequate, the Department may deny your application. As the detailed technical review continues, you may be requested to provide additional information. It is important that all additional information requested be submitted within the time period specified.

Please be advised that the discharge of dredged or fill material to the waters of the United States without the required State water quality certificate and proper authorization under Section 404 of the Federal Clean Water Act is a violation of the law and is subject to enforcement proceedings and legal action under 33 CFR Part 326 and citations thereunder.

If you have questions regarding the application, you may contact Bob Gilmore at (860) 424-3866, Robert.Gilmore@ct.gov. All correspondence regarding the application should reference the application number identified above and be addressed to Bob Gilmore, Inland Water Resources Division, Bureau of Water Protection and Land Reuse, Department of Energy and Environmental Protection, 79 Elm St., Hartford, CT 06106-5127.

Sincerely,

Cheryl A. Chase, Director
Inland Water Resources Division
Bureau of Water Protection & Land Reuse

CC:MS

cc: Susan Lee, New England District, US Army Corps of Engineers
Michael Marsh, US EPA Region 1
Charles, J. Nicol, Northeast Utilities Service Company
Chris Fritz, Burn & McDonnell

PAGE
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TOWN OF MANSFIELD
PLANNING AND ZONING COMMISSION

JoAnn Goodwin, Chair

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3330
Fax: (860) 429-6863

October 5, 2012

Mr. Daniel D. Morley
Policy Development Coordinator
Intergovernmental Policy Division
Office of Policy and Management
450 Capitol Avenue
Hartford, Connecticut 06106-1308

Re: Draft 2013-2018 Connecticut Conservation and Development Policies Plan

Dear Mr. Morley:

Thank you for providing municipalities with the opportunity to review and comment on the draft Conservation and Development Policies Plan for the State of Connecticut. We appreciate the effort that your office has put into drafting this document, and support the six growth management principles identified in the plan as well as the supporting policies. However, we have significant concerns regarding the methodology used to develop the Locational Guide Map, which has resulted in large portions of our rural community being designated as Priority Development Areas.

Priority Development Areas

As home to the University of Connecticut's main campus, we are in a rather unique position. The vast majority of town is comprised of forests, wetlands and agricultural lands, dotted by historic villages. The two exceptions to this are the University's main campus and the south side of town that borders the short limited access section of Route 6. Due to the university's presence, we have a bus route running up Storrs Road from Willimantic to north of Route 44. While this transit service is important to our community and we would love to see it expanded, it is by no means similar in nature to an urban transit district in terms of number of buses or frequency of service. However, due to the methodology used to identify 'Priority Development Areas,' the entire west side of Storrs Road leading from southern Mansfield to Storrs has been designated as a Balanced Growth Area, which is incompatible with its rural character.

Similarly, while many properties in the Storrs area are fortunate to have access to the University's sewer and water service, this service exists primarily to serve the University, as does their shuttle service. However, the mere existence of this service has resulted in the entire northwestern quadrant of the town being designated as a Priority Development area.

The two examples listed above demonstrate the flaws in the methodology used to identify Priority Development Areas, including the use of census blocks as the defining geographic area and no differentiation in the types of 'urban services' that are provided. While we understand that you are constrained by the need to approach the Locational Guide Map with a uniform methodology for all of the cities and towns in the state, we believe that a much more refined approach is needed to ensure that Priority Development Areas are truly representative of the growth management principles and policies embodied in the plan. Unfortunately, while the plan is clear that the principles and policies are the primary source for guiding development activities, many people will look solely at the map without considering the context in which an area was designated. Therefore, if it is not possible to develop a more refined methodology for designation of Priority Development Areas, we recommend the following guidance be added to the section explaining the Locational Guide Map:

- In cases where a census block is large, such as in rural areas, the features that resulted in it being designated as a Priority Development Area may be in one discrete area of the census block. This should be taken into consideration when reviewing proposed projects – in other words, the context of how the area received a designation of Priority Development Area should be factored into any review of development proposals. For example, presence of sewer and water service in one small area of the census block should not be used to justify development in another location within the block that may not be appropriate for development.

- While the explanatory text notes that the application of the PDA to the entire census block 'should not be construed as influencing local land use and zoning decisions or municipal plans of conservation and development,' this language should be strengthened to state that municipal plans of conservation and development should be consulted as part of the review of state projects. While state projects are not subject to local planning and zoning regulations, local plans of conservation and development typically address land use in a more refined manner, and should be considered as part of the overall project context.

<u>Priority Conservation Areas</u>

The following issues should be considered with regard to areas designated as Priority Conservation Areas (PCA). Some of these changes could be made to the way in which these areas are mapped; others may be more appropriate as clarifying text that supplements the map. In addition, we have enclosed updated maps depicting permanently preserved open space and locally designated agricultural soils so that those areas may be incorporated in the Priority Conservation Areas.

- *Agricultural Soils.* Add Additional Statewide Important agricultural soils to areas designated for priority conservation, and use an aggregate of 25 acres for all agricultural soil types. Currently there may be different soil types (Primary, Local Important, Additional State Important) of less than 25 acres adjacent to each other, which when combined total more than 25 acres. This change in base modeling will appropriately result in more areas being designated for either Balanced Growth or Priority

Conservation. If it is technically impractical to use an aggregate of 25 acres, consider reducing the base threshold.

- *Steep Slopes.* Consider adding steep slopes as one of the conservation criteria.

Balanced Growth Areas

As noted above, the use of census blocks as the minimum geographic area for identifying Priority Development Areas is a concern due to the size of census blocks in rural areas. If there is no way to further refine these areas, clarifying language to supplement the map should be added, particularly in areas designated as 'Balanced Growth' due to the presence of the following: Level A Aquifer Protection Areas, Flood Hazard Areas and Drinking Water Supply Watersheds. While these areas may be designated as Balanced Growth, there should be language indicating that if the Balanced Growth designation is the result of the intersection of a Priority Development Area with one of the above categories, the Conservation areas should be given greater weight due to the types of resources involved.

For example, the Horsebarn Hill area of UConn and portions of the UConn Forest are shown as 'Balanced Growth,' due to the availability of UConn sewer, water and transportation within the census block. However the entirety of the area is within a drinking water supply watershed and a large portion is covered by the Level A Aquifer protection area for the Fenton River well field. As such, these areas are inappropriate for development, yet are depicted as balanced growth, not conservation, due to the size of the census block and location of water, sewer and transit service to the limited facilities located within the census blocks.

Clarification on Priority Funding Area limitations

It is our understanding that only 'growth related projects' must be located within a Priority Development area to be eligible for funding unless an exception is granted. Clarification of this point is needed, particularly with regard to conservation activities within Priority Development Areas and Undesignated Areas. For example, if a property owner is interested in a purchase of development rights to preserve the agricultural use of a property, would that be eligible for state funding if the property is 'undesignated' – either in whole or in part. The same question would apply to funding for open space conservation.

Additionally, given the smart growth principles embodied in the plan policies, it would seem that the provision of parks and open space in close proximity to higher density development is desired. For Example, GM Principle 2 includes the following policy: "Encourage and promote access to recreational opportunities, including trails and greenways, for affordable and mixed-use housing." However, it is unclear as to whether funding could be provided for acquisition and development of open space and recreation facilities in Priority Development Areas. This should be clarified in supplemental language to the map to ensure that funding opportunities address both the written principles and policies of the plan as well as the locational guide map.

Changes to the Locational Guide Map

As described above, we have significant concerns with the way in which large segments of Mansfield have been identified as 'Priority Development Areas.' As such, unless the methodology for designating these areas can be better refined to address our concerns, we have identified several changes to the Locational Guide Map, primarily to remove areas from the designation of 'Priority Development Area.' There is one location where we are requesting

property to be designated as a Priority Development Area. This area is designated as a growth area on the current locational guide map and is also identified within the Mansfield Plan of Conservation and Development as a Planned Development area.

We further recognize that some of the areas we are asking to have removed from the Priority Development Area designation such as Spring Manor Farm and the Horsebarn Hill/UConn forest area are owned by the State/University. We hope that these requests will be given due consideration even though we have no jurisdiction over their development or use.

Given the extent of our concerns, we would appreciate the opportunity to meet with you to discuss changes to the Locational Guide Map and its methodology. Please contact Linda Painter, our Director of Planning and Development at 860.429.3330 or painterlm@mansfieldct.org to set up a meeting or if you have any questions regarding our comments.

Sincerely,

JoAnn Goodwin
Chair

Enclosures: Proposed Changes to Priority Development Areas
Locally Designated Agricultural Soils
Preserved Open Space map

C: Planning and Zoning Commission
Town Council
Conservation Commission
Open Space Preservation Advisory Committee

Connecticut POCD Location Guide Map

Legend

- Village Development Areas
- Permanent Open Space/Farmland Pres.
- Balanced Growth Areas

Priority Development Areas

TOTAL DEV

- 1 - 2
- 3
- 4 - 6

Priority Conservation Areas

TOTAL

- 1 - 2
- 3
- 4 - 6

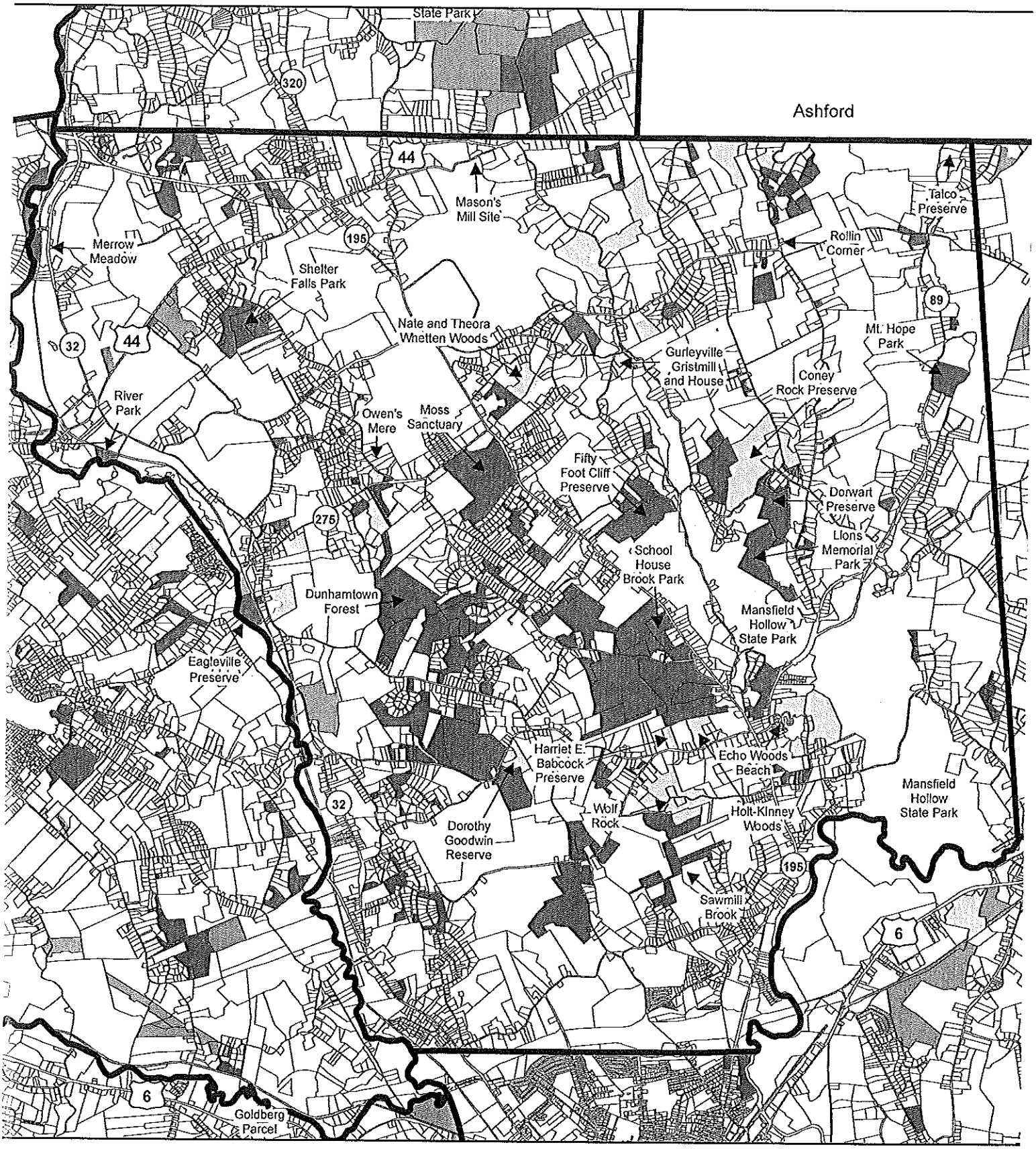
Remove from PDA

Add to PDA

N W E S

0 0.5 1 2 Miles

Created by the Windham Region Council of Governments, 2012.



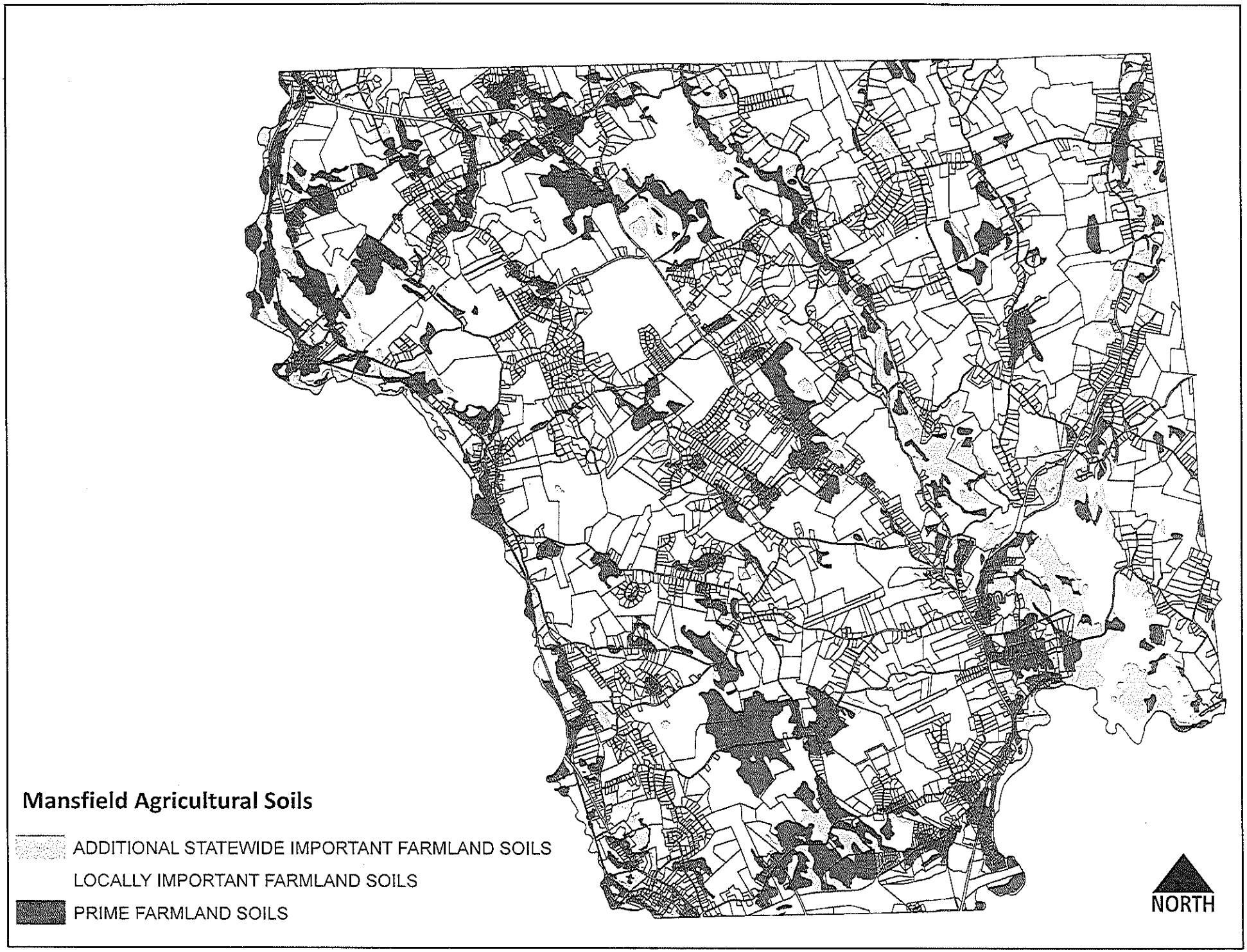
Open Space

- Farmland Preservation
- Federal
- Land Trust
- Municipal
- Private
- State

Mansfield Open Space

0 0.5 1 2 Miles

N W E S


Mansfield Agricultural Soils
ADDITIONAL STATEWIDE IMPORTANT FARMLAND SOILS
LOCALLY IMPORTANT FARMLAND SOILS
PRIME FARMLAND SOILS
NORTH

PAGE
BREAK

September/October 2012

Connecticut Wildlife

CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES
DIVISIONS OF WILDLIFE, INLAND & MARINE FISHERIES, AND FORESTRY

Volume 32, Number 5 • *September / October 2012*

From the Director's Desk

On September 22, the Bureau of Natural Resources and the Friends of Sessions Woods celebrated Connecticut Hunting & Fishing Appreciation Day at the Sessions Woods Wildlife Management Area in Burlington. Those who have attended this event in the past include hunters, anglers, families with children of all ages, and many who haven't tried hunting or fishing yet but had their interest sparked. The celebration this year is even more special as we highlight the 75th anniversary of the federal Wildlife and Sport Fish Restoration Program.

For me, hunting and fishing are like forces of gravity, drawing me to our wonderful lakes, ponds, streams, fields, and woodlots. These activities offer times of reflection, relaxation, stress relief, laughter, and wonder. I can't think of a fishing trip without images of my dad firing up our 1950s-era Johnson outboard tethered to the transom of my Uncle Rud's trusty 14-foot Alumicraft rowboat. We would putter out to the middle of the lake where we would drop the eight-pound Roloff's Manufacturing cast iron anchor with a splash. I can still hear the sound of the Plano tackle box scraping across the aluminum seat, and the lid popping off the top of the coffee can holding the night crawlers we had collected the night before. Dad would remind me to be careful putting the worm on the hook; his way of reminding me it was my job, not his. Next came attaching the red-and-white bobber, the split shot, and casting the line as far as I could. After that, it was all about the anticipation of watching that bobber and hanging with my dad.

At the time, it never occurred to me how or why we enjoyed such riches of fish and wildlife. They simply existed, and seemed inexhaustible. Now, as an adult, I have come to realize that those riches are the product of the remarkable commitment of those like my dad, the original conservationists.

For those that don't know, the vast majority of funding for fish and wildlife conservation comes from hunters and anglers. One obvious source is from license fees. But largely unknown is the excise tax paid by hunters and anglers on firearms, ammunition, archery equipment, and fishing tackle. This is a tax that people like my dad, and the hunters and anglers of his generation, argued for. A tax, collected by the federal government and returned to the states, exclusively for the conservation of fish and wildlife.

We lost my dad a couple of years after those early fishing trips, but those memories are as real today as if they occurred yesterday. The sounds, smells, even the feel of water lapping against a boat or canoe bring those images back. And, they bring a smile to my face. Now, as I watch our daughters during our too infrequent fishing trips, I hope that they keep with them the memories of hazy, lazy summers paddling in a nearby pond.

I have a lot to thank my dad for, and ensuring that our family will enjoy healthy and abundant fish and wildlife populations is a big one. Now, what will we do for the generations that follow us?

Rick Jacobson, DEEP Wildlife Division Director

Cover:

Wetland restoration projects (see article on page 6) have restored and created habitat for wading birds, like the glossy ibis.

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

Published bimonthly by

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Bureau of Natural Resources
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The Federal Aid in Wildlife Restoration Program was initiated by sportsmen and conservationists to provide states with funding for wildlife management and research programs, habitat acquisition, wildlife management area development, and hunter education programs. Connecticut Wildlife contains articles reporting on Wildlife Division projects funded entirely or in part with federal aid monies.

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Monitoring Connecticut's Rare Plant Species

Article and photography by Nelson DeBarros, DEEP Wildlife Division

Just as field surveys are conducted for shorebirds, bats, and other wildlife, so are they conducted for Connecticut's rare plants. These data are used to determine status, trends, and changes in distribution for these plant populations, and to inform future management decisions.

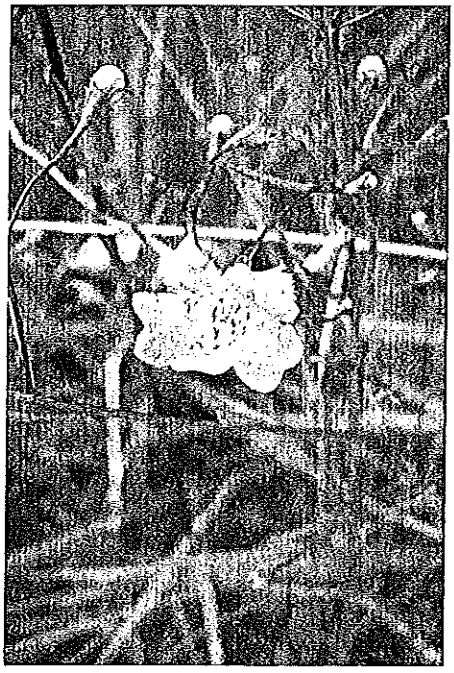
Every year, volunteers and DEEP staff monitor and manage habitat for Connecticut's rare plant populations. Monitoring occurs over a wide range of habitats – from coastal beaches and marshes to the summits of Connecticut's highest points. Some sites may look pristine, while others may bear noticeable scars.

The data collected are often simple and generally consist of the number of plants observed over a given geographic area. With this information, changes in density and spatial extent can be tracked over time. The possible expansion or contraction of a population also can be determined. In addition to monitoring known populations, surveys for new occurrences are conducted. Occasionally, previously unknown populations are discovered or species are found to be more common than previously thought.

When monitoring data indicate that a plant population is in decline, conservation actions can be implemented. Vegetation can be managed to conserve plants in the same way that it can be managed to promote particular wildlife species. The management goal for many rare plants is to turn back the "successional clock." A number of Connecticut's rare plants grow best under the high-light levels present in early successional habitats rather than the deep shade of mature forests. Selective tree harvests or the creation and maintenance of early successional habitat can be used to provide habitat for these sun-loving species.

Invasive species management also has become a regular component of rare plant conservation. Invasive species, such as bittersweet, autumn olive, and common reed, often dominate sites and exclude other species. Control of these aggressive plants gives native species a fighting chance.

A population of the state endangered few-flowered nutrush (*Scleria pauciflora* var. *carolinlana*) was discovered while surveying for another rare plant species.



(left) Low frostweed *(Hellanthemum propinquum*; state threatened) occurs in sand barrens or open woods. These areas are often targeted for development. Natural succession to mature forest can also eliminate suitable habitat. (right) Connecticut's only population of sandplain gerardia (Agalinis acuta), a state and federally endangered plant species, requires well-timed mowings to reduce competition from other plants.

Get Involved!

Over the years, much of Connecticut's rare plant data has been collected and contributed by volunteers with the New England Plant Conservation Program (NEPCoP). This program, administered by the New England Wild Flower Society, trains volunteers in monitoring protocol and coordinates monitoring efforts across the six New England states. Becoming a NEPCoP volunteer is an excellent way to explore the outdoors, meet new people, and learn more about Connecticut's rare flora! To learn more, please visit www.newfs.org/protect/rare-plants-and-conservation/Volunteer. Learn more about state-listed plant species on the DEEP website at www.ct.gov/deep/endangeredspecies.

– Maintaining Healthy Sport Fish Populations –

Written by Penny Howell, DEEP Marine Fisheries Division

The Federal Aid in Sport Fish Restoration (SFR) Program has had a major impact on sport fishing nationwide since its enactment in 1950. This program is made possible by people doing the things they love - fishing and boating - and at the same time helping to restore and protect fish and their habitats by paying a small tax on their fishing equipment and motor boat fuels. The premise of this program is a direct cycle of user pay/user benefit. Ten years after the formation of the Connecticut Department of Environmental Protection in 1971 from its roots in the state's Department of Fish and Game, marine fisheries management and research was launched in Long Island Sound and then flourished with the agency's participation in the SFR Program. Over the past 29 years, the SFR program has supported seven major marine projects in Connecticut; four are still ongoing. These projects span a wide range of species and important research and management needs.

Marine Recreational Information Program

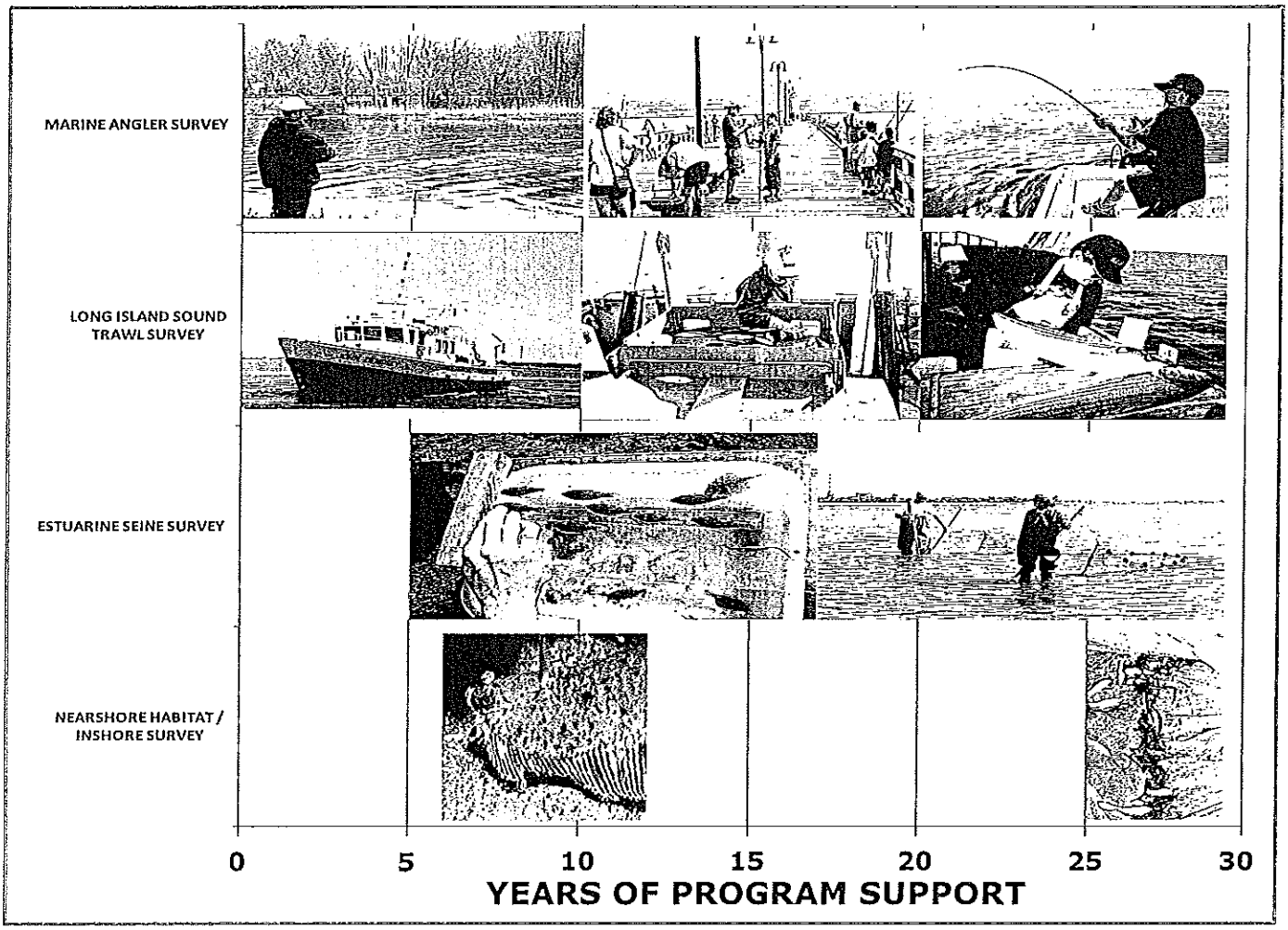
Information on marine angler activity has been collected in Connecticut since 1979 from intercept interviews conducted by Marine Fisheries Division staff. This project became part of the coastwide Marine Recreational Fisheries Statistics Survey conducted by the National Marine Fisheries Service in 1984, and then the Marine Recreational Information Program in 2010. The program provides statewide estimates of marine fishing trips, total fish caught, and angler numbers. An additional Volunteer Angler Survey characterizes the size composition of both kept and released fish reported by volunteer anglers.

Long Island Sound Trawl Survey

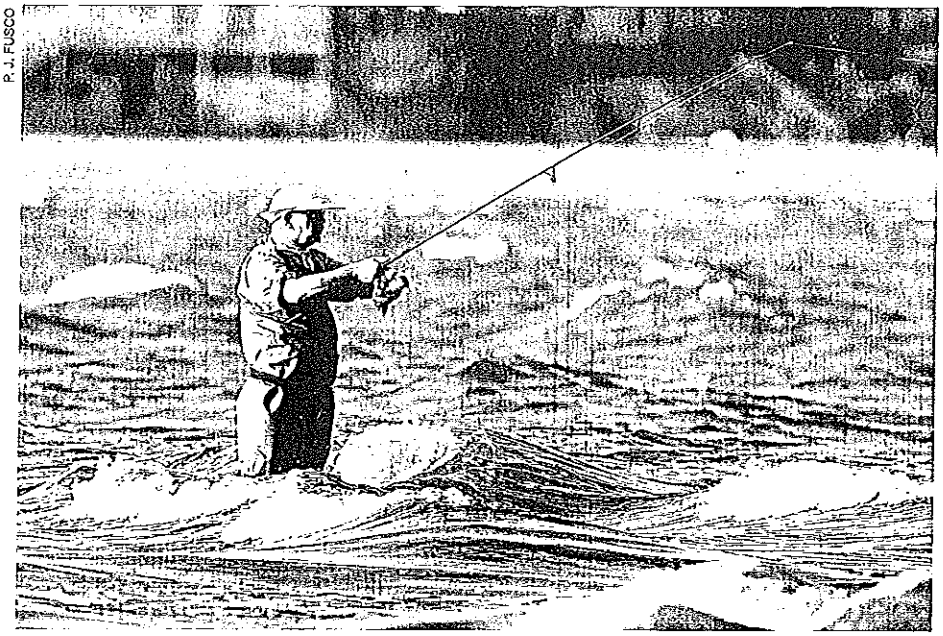
The relative abundance of over 100 finfish species, and many more invertebrate and algal species, is monitored seasonally through Long Island Sound-wide survey trawl catches. Age specific indices of abundance are generated for several recreationally important species, including scup, tautog (blackfish), winter flounder, summer flounder (fluke), bluefish, and weakfish. Numbers and biomass (total weight) are used in coastwide resource models to assess productivity and the impact of fishing on migratory species.

Estuarine Seine Survey

The relative abundance of young-of-year winter flounder, as well as other nearshore finfish and crab species, is obtained from fall seine sampling conducted at eight beach sites from Groton to Greenwich. An intertidal forage fish abundance index also is generated.



P. J. FUSCO



Recreational saltwater fishing opportunities abound along the Connecticut shoreline.

Inshore Survey/Study of Nearshore Habitat

This program began as a five-year study of five harbors which mapped the distribution of nearshore fish habitat to increase understanding of how non-fishing activities, such as dredging and land-use practices, affect the health and abundance of valued recreational species. An additional two years of examining larval production in two of these harbors was followed years later by an ongoing study of Connecticut River anadromous fish production. Seine catches at seven sites stretching from Holyoke, Massachusetts, to Essex, Connecticut, provide annual indices of juvenile shad, blueback herring, menhaden, and other nearshore species abundance, along with information on the adult American shad spawning population (length, age structure, and sex ratio). Comparable data are gathered at eight sites in the Thames River.

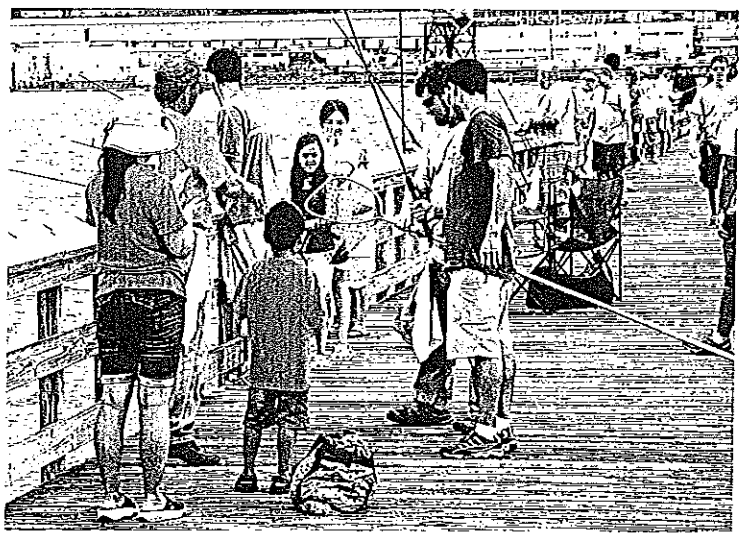
Past SFR-funded Studies

Past studies no longer funded by the Sport Fish Restoration Program include:

- Examination of *Gear-Induced Incidental Mortality in Marine Finfish*;
- *Studies in Conservation Engineering*, which evaluated commercial and sport fishing gear and fishing practices to quantify incidental mortality from non-target net by-catch and recreational hook and release;
- *Connecticut River White Perch Assessment*, which found that abundance of this ubiquitous fish was lower, but fish were growing faster than in the 1970s, and that enacting a minimum harvest size of eight inches could increase the population's productivity; and
- An accompanying *Connecticut River Angler Survey*, which showed that white perch support one of the most popular recreational fisheries in the river, along with striped bass and catfish, and that the fishing rate was at a level producing maximum yield.

All of these programs have provided one of the strongest databases available with which management strategies can be developed and implemented to meet both resource and angler needs. The long-term studies have allowed managers to plan for effects due to habitat loss and restoration, climate change, and changes in harvest practices. The SFR grant program of dedicated funds has enabled natural resource agencies from Connecticut and neighboring states to protect fish stock productivity, along with improving opportunities for anglers to get out on the water and have a great fishing experience.

Marine Fishing Day 2012



No Child Left Inside® Great Parks Pursuit participants spent Saturday, August 4, casting into the Thames River off of the fishing access pier within Fort Trumbull State Park, in New London. DEEP staff from the Inland Fisheries, Marine Fisheries, and State Parks Divisions, teamed up with volunteers from the Connecticut Aquatic Resources Education (CARE) Program to provide an exciting day of hands-on fun, education, and angling. For each of the past five years, No Child Left Inside® programs have offered freshwater and ice fishing events, introducing thousands of families to the sport of fishing. The salty air provided a welcome change of pace and set the stage for a day of learning about Connecticut's coastal marine life. Several activities included a marine fish identification challenge, "touch tank" full of shellfish and finfish (some of which were recently caught by the participants), lobster pot maze, crabbing, and of course fishing. The juvenile form of the voracious predator, the "bluefish," provided the most action, with hundreds of these "snapper blues" being caught throughout the day! Other fish brought into the pier included "keeper" scup (porgy), black sea bass, cunner, and croaker. Most importantly, families were able to spend quality time together while angling for some of Connecticut's bountiful natural resources at one of our most historic and scenic state parks.

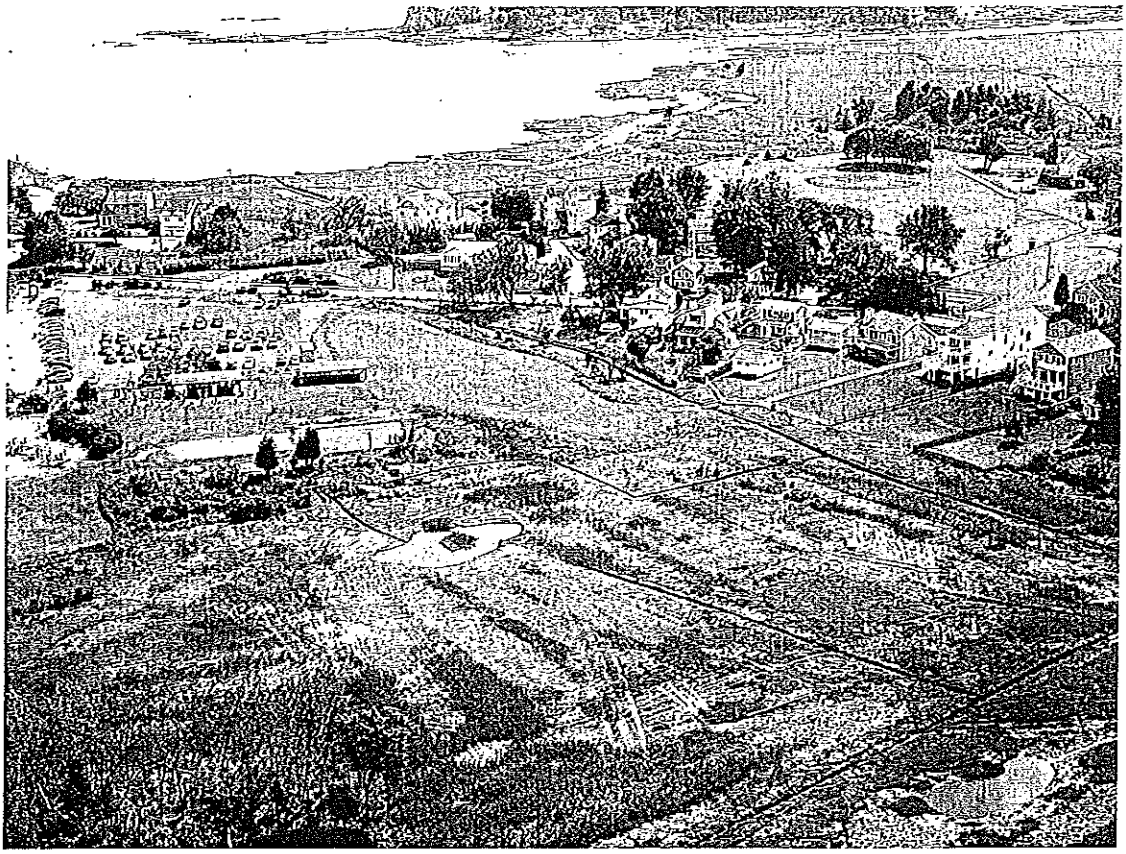
Justin Wiggins, DEEP Inland Fisheries Division, photo by J. Murtagh

WHAMM Projects Clear the Way for Improved Wetlands

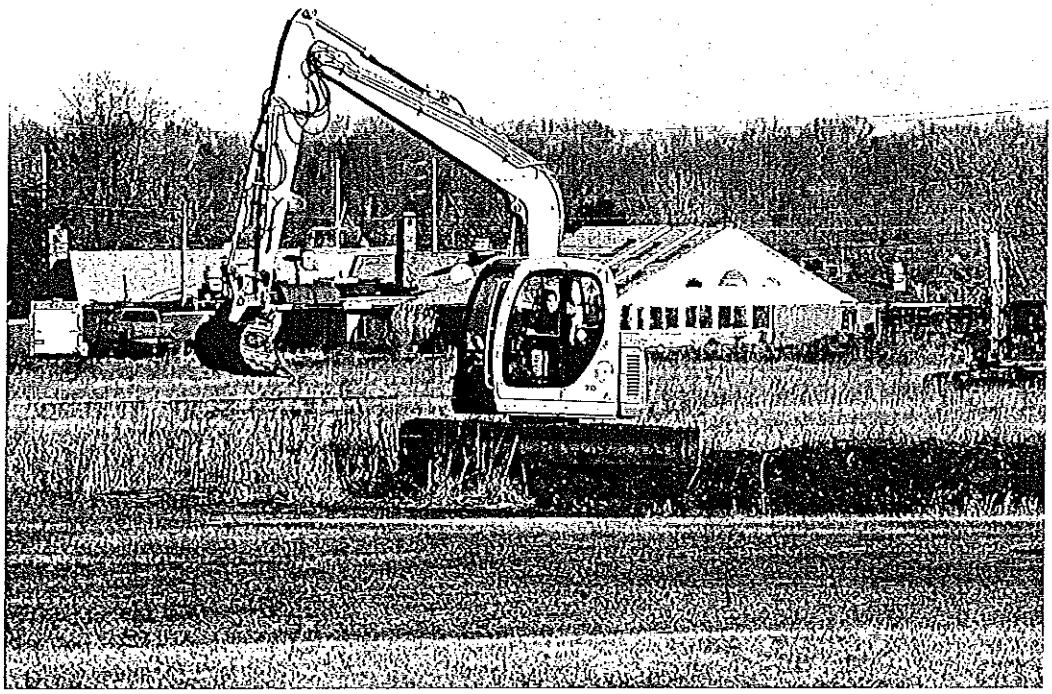
Written by Paul Capotosto; photography by Roger Wolfe; DEEP Wildlife Division

The DEEP Wetlands Habitat and Mosquito Management (WHAMM) Program completed three wetland restoration projects during January to July 2012. All of the projects involved the use of Integrated Marsh Management (IMM) techniques. IMM takes a holistic approach to wetlands management. It combines several management techniques, including invasive plant (common reed, purple loosestrife, etc.) control, culvert replacement for tidal flow restoration, and Open Marsh Water Management (OMWM) practices for biological mosquito control and wildlife habitat enhancement.

The WHAMM Program plays a crucial role in the restoration of tidal wetlands in Connecticut. Established in 1994, the program is one of the first wetland restoration programs in the country with dedicated staff and specialized, low-ground pressure equipment used exclusively in restoration activities. Some of this specialized equipment was purchased with funding from the Connecticut Migratory Bird Conservation (Duck) Stamp Program.



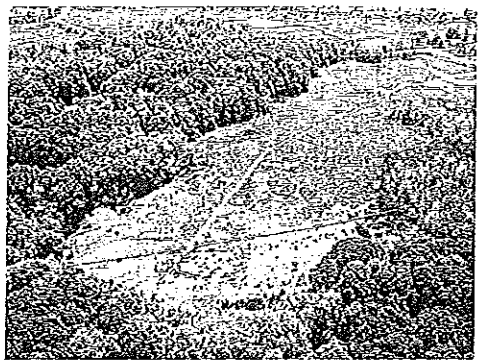
A view of the wetland restoration work conducted at Jacob's Beach off of Seaside Avenue in Guilford. Note that several pools and linear channels have been cleaned. This photograph was taken on June 14, 2012.



A low-ground pressure excavator is used to create a new pool and clean old mosquito control ditches in the Jacob's Beach Marsh in Guilford.

Marsh Restoration in Guilford

The first project was conducted at two marshes in Guilford: Jacob's Beach Marsh and Chittenden Park Marsh. The WHAMM crew worked with the Engineers Office and the Environmental Planner for the Town of Guilford to start the process. Work started in January 2012 and was completed in April. Two low-ground pressure excavators were used to clear out 4,000 linear feet of old mosquito control ditches, 1,000 linear feet of new



A view of the wetland restoration work conducted at Groton Long Point. A long channel was excavated to allow tidal water in and out of the site. This photograph was taken on June 8, 2012.

channels, and several new pools. These pond and ditch networks are not connected directly to tidal channels and, therefore, do not drain at low tide. After excavation, a higher water level is maintained, which provides habitat for fish and other wildlife, and encourages revegetation by native marsh grasses. Mosquito management is achieved by modifying egg-laying sites and by creating open water habitat for small, naturally-abundant killifish, which prey on mosquito larvae and pupae. OMWM systems provide long-term control of mosquitoes, thus reducing the need to apply chemical insecticides.

LIP Project at Groton Long Point

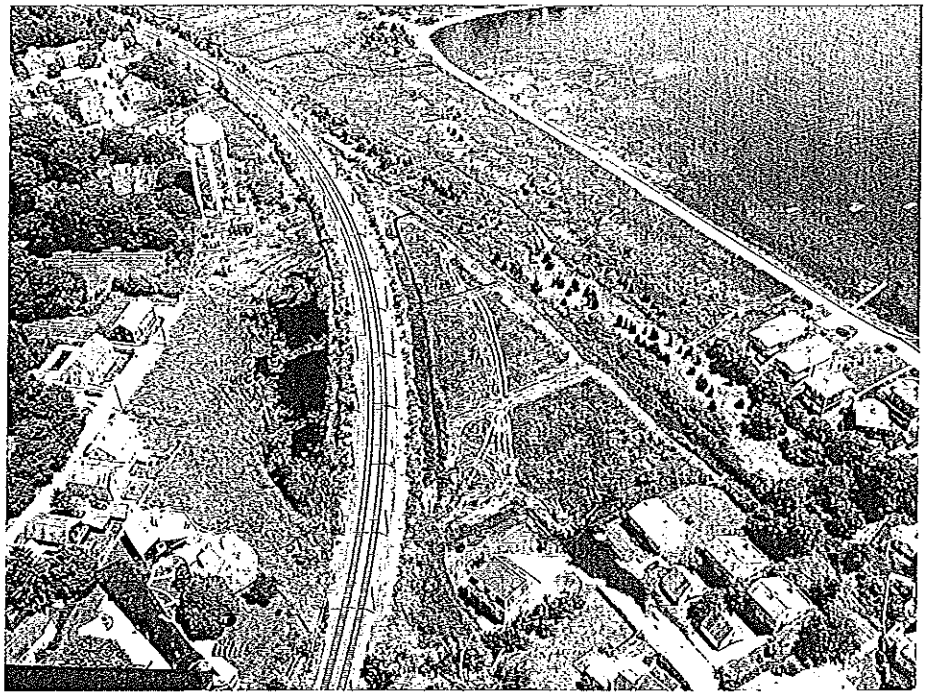
A low-ground pressure excavator was used for a DEEP Landowner Incentive Program (LIP) project at Groton Long Point to clean out 1,200 linear feet of old mosquito control ditches and restore tidal flows in and out of the area. The work began in April and took less than a month to complete.

Mosquito Management in Stonington

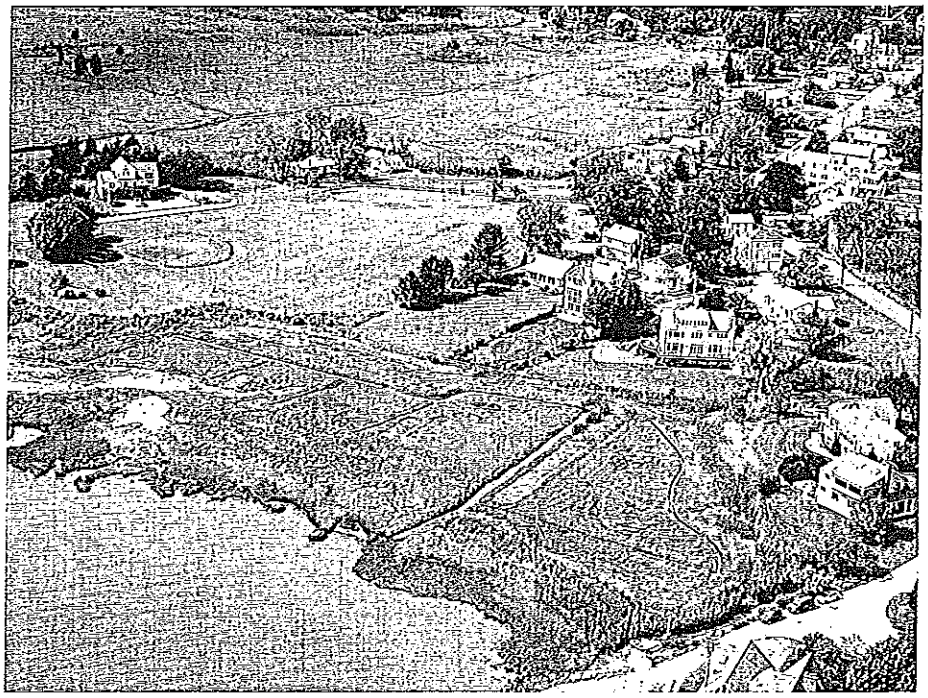
Two low-ground pressure excavators cleaned out 3,649 linear feet of old mosquito control ditches as part of a DEEP Mosquito Management Program project with the Stonington Borough. Work was conducted at marshes located north and south of the railroad tracks. The project was completed in late June 2012.

Project Monitoring

Upon completion of projects, many of the sites are monitored over time to document bird use of the area, regrowth of native vegetation, and water quality. The final results demonstrate how fortunate Connecticut is to have a wetland restoration program in place that is working with other state and federal agencies and dedicated partners to conserve and restore such ecological treasures as our tidal wetlands.



The Stonington Borough marshes can be seen north and south of the railroad tracks. This photograph shows the newly cleaned ditches in the marsh to the south. The marsh to the north was not yet completed when this photograph was taken on June 8, 2012.



Ditches were cleaned and several pools were created at Chittenden Park in Guilford. This photograph was taken on June 14, 2012.

WHAMM Crew Accomplishments

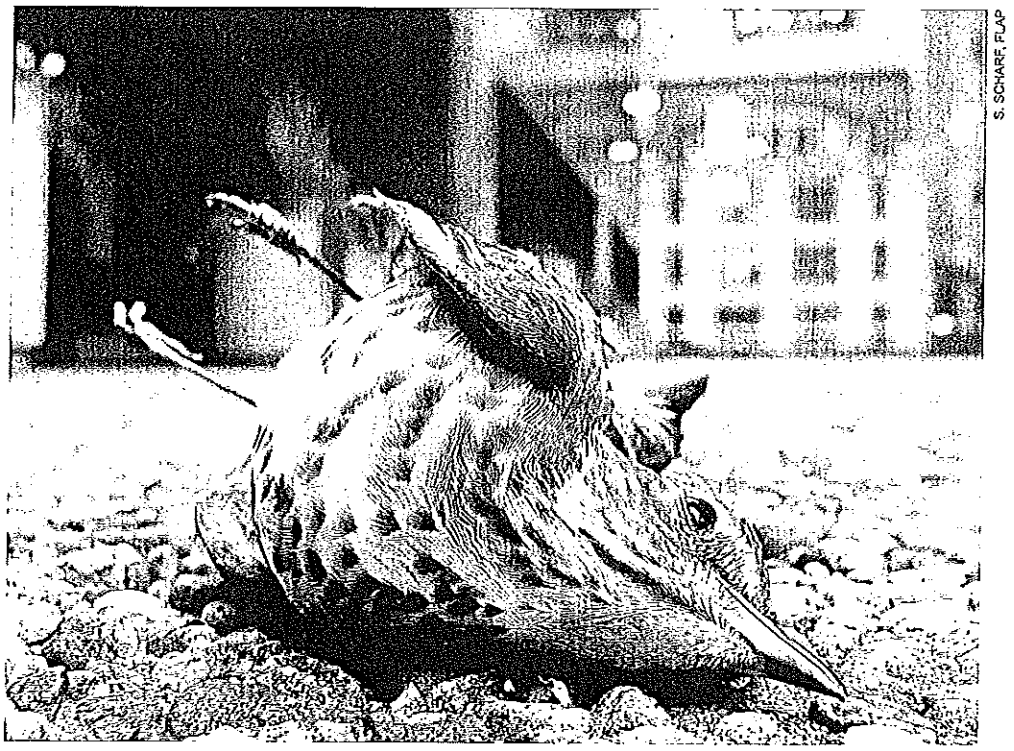
Paul Capotosto and Roger Wolfe, of the Wildlife Division's WHAMM crew, co-authored an article on Integrated Marsh Management that was recently published in the scientific journal, *Wetlands Ecology and Management*. The article is available electronically on SpringerLink (www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s11273-012-9251-9).

Prepare Windows and Turn Off Lights to Protect Birds

Written by Shannon Kearney-McGee, DEEP Wildlife Division

Have you ever heard a strange "thwack" sound early some morning that was caused by an object hitting a window at your house? The object most likely colliding with your window was a migratory songbird. Research suggests that one of the most likely causes of direct mortality to migratory songbirds in North America is collisions with glass windows. This cause of mortality is second only to habitat destruction. Surprisingly, these collisions are not limited to tall office buildings of urban centers. In fact, most collisions occur below the forest canopy, which corresponds to the height of windows of homes and smaller buildings.

If you take a moment to think about how birds move through the landscape, it makes sense that they would run into house windows. Birds often fly through and around shrubs and trees. These shrubs and trees are often reflected in shiny windows, and birds unknowingly fly right into the glass. Impact with glass can cause immediate fatal brain injury or, if the birds are lucky, it will just leave them stunned. However, stunned birds become more vulnerable to predation or further injury.



S. SCHARF, FLAP

Most bird/window collisions occur during the early morning hours. At that time, people may not be awake or outside to observe a collision, and often the neighborhood cat, fox, or other predator will find an injured or stunned bird before a homeowner would detect it.

Death Toll Staggering

It is estimated that one to 10 birds are killed every year by each building in North America. Based on the most recent United States census, there are just over 90,000 privately owned structures in Connecticut. Using these numbers, it is estimated that 90,000-900,000 birds are killed each year by striking windows just in our own small state. These numbers may be quite surprising to homeowners who may only recollect a bird collision at their home once or twice. In fact, the majority of birds that collide with windows are never observed by the building occupants.

Misconceptions About Window Strikes

Although bird collisions can happen at any time of year, birds are more likely to collide with windows of new buildings, particularly when the birds are completing their migration and are not familiar with their surroundings. Because most migratory songbirds migrate at night and descend into shrubbery in the morning, it is during these early hours when most window collisions are likely to occur. People may not be awake or outside to observe the collision, and often the neighborhood cat, fox, or other predator will find an injured or stunned bird before a homeowner would detect it.

Another misconception is that rare bird species are not at risk for collision with windows. Actually, almost 300 different species have been documented hitting windows, and they include some rare and declining species, like northern saw-whet owl, yellow-breasted chat, golden-winged warbler, and whip-poor-will.

Although statistics demonstrate that most collisions occur below four stories, it is important to consider the magnified effects of urban centers. Connecticut lies along the Atlantic Flyway, a major migration route from Canada to South America. Migrating birds use the stars to orient them as they navigate this route. The overwhelming light emitted from our urban centers confuses and attracts these migrating birds, especially on foggy nights, where they can become trapped in a maze of glass windows.

What You Can Do

With all of the windows out there, it may seem like there is little anyone can do to reduce the impact. On the contrary, every one of us can do a few simple things to prevent window collisions at our home or office, and make a difference. It is important to remember that window reflections need to be broken up to be effective in reducing bird/window collisions. Although it was previously recommended that homeowners use a falcon decal or silhouette to stop birds from hitting windows, we now know that *just one* decal is not effective. Many migratory birds are very small and will try to squeeze around and through small openings. To be effective, window reflections should be broken up with vertical strips spaced less than four inches apart or horizontal stripes spaced less than two inches apart.

Several other techniques or items can be used to break up window reflections. Some projects might even be perfect for getting the kids involved:

- *Add images to windows by applying tempera paint with stencils.*
- *Use tape to create patterns on windows. See www.abcbirdtape.org to find out how to order this special tape that will help prevent collisions. It lets birds see glass and you see out; is easily applied and easily removed; and lasts up to four years.*
- *Apply a window film that lets you see out the window, but birds can see from the outside (www.collidescape.org).*
- *Apply window decals that won't obstruct your view, but reflect ultraviolet sunlight that is visible to birds (www.windowalert.com).*
- *Keep full length screens on the outside of windows.*
- *Keep blinds closed to help reduce reflection and the appearance of an escape route through windows. However, this is not as effective as putting something on the outside of windows.*
- *Keep cats indoors to give window-stunned birds a fighting chance to survive.*

What Can Businesses Do?

Making changes to windows in urban centers also can help migratory birds safely make their journey through Connecticut. "Kill the Lights - Save the Birds" is the motto of the Lights Out Toronto campaign, which encourages businesses and building managers to save energy and help bird conservation at the same time.

It also should be recognized that windowed terrariums can be very dangerous because birds are unable to distinguish the window barrier between the outside and the plants inside the building.

Using lighting that is broadcast in a downward direction, as opposed to "up lighting," still provides safety lighting at night but does not illuminate the sky. More specific building guidelines and LEED recommendations can be found at www.birdsandbuildings.org/documents/BirdFriendlyBuildingDesign.pdf.

P. PLANT, FLAP

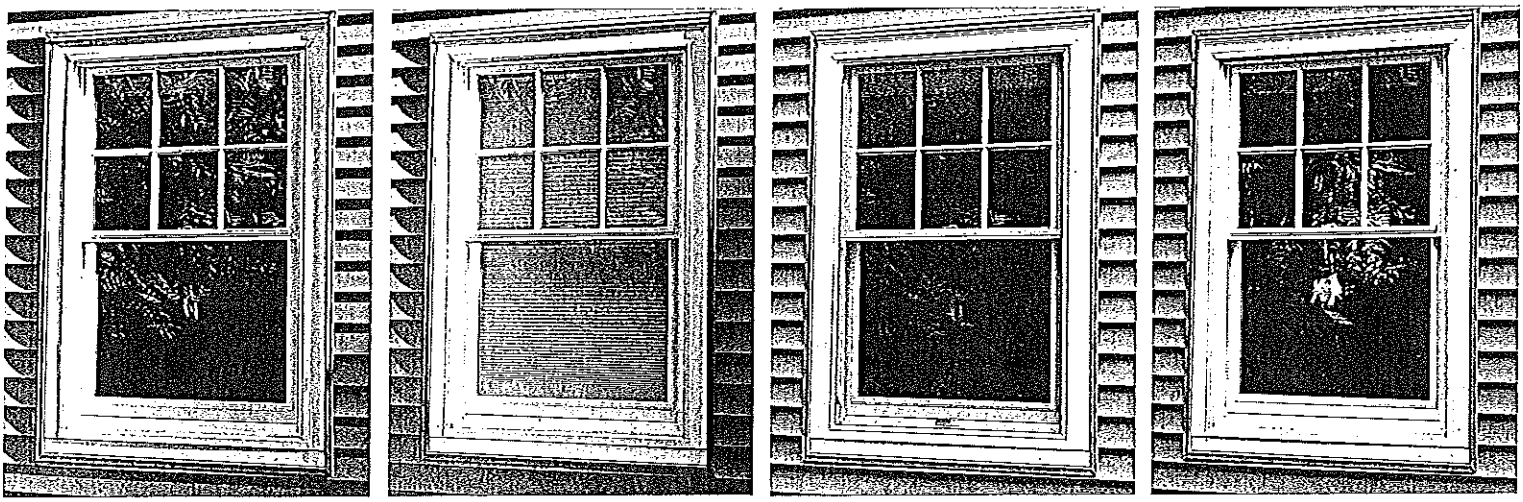
The landscape is often reflected in windows and birds unknowingly fly right into the glass.

Learn More and Get Started!

There are many excellent resources for learning more about preventing bird collisions with windows. These resources offer advice on how to landscape yards, treat windows, and even how to start a local "Lights Out" campaign in your area. Lighting and building recommendations are offered as well.

The following websites are good starting points: www.abcbirds.org and www.flap.org. Help make a difference for our migratory birds and get started now on your efforts to reduce bird/window collisions!

What Can I Do As a Homeowner?



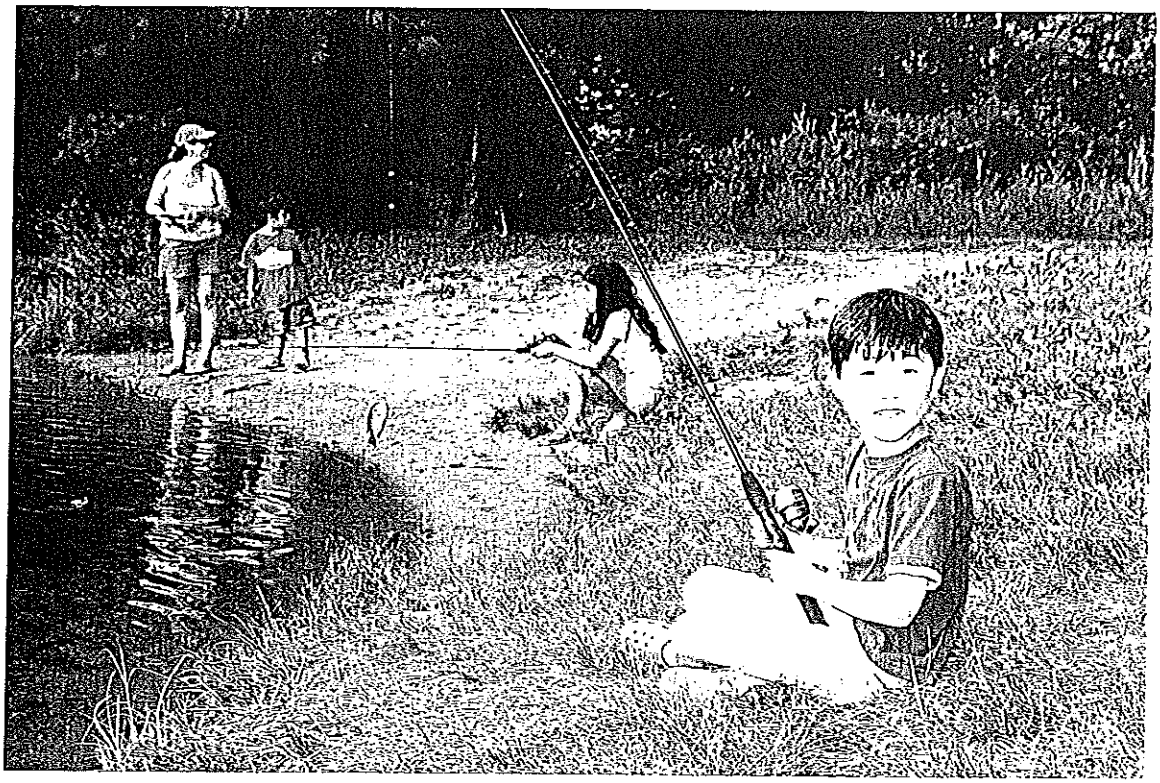
P. J. FUSCO

Homeowners can use a number of different window treatments to reduce bird/window collisions. Bird strikes typically occur at windows that reflect nearby habitat. Birds unknowingly fly toward the reflection and collide with the glass. The far left photo shows a bare window reflecting habitat. This is the most dangerous for birds. The second photo of the same window shows how the reflection is muted when the shades are drawn. An external screen has been added to the window in the third photo. The reflection is still visible, but the screen serves as a barrier to a window strike. In the photo on the right, a bird decal has been applied to the outside, which makes birds aware of an obstacle. Applying multiple decals to a window works better than applying just one decal.

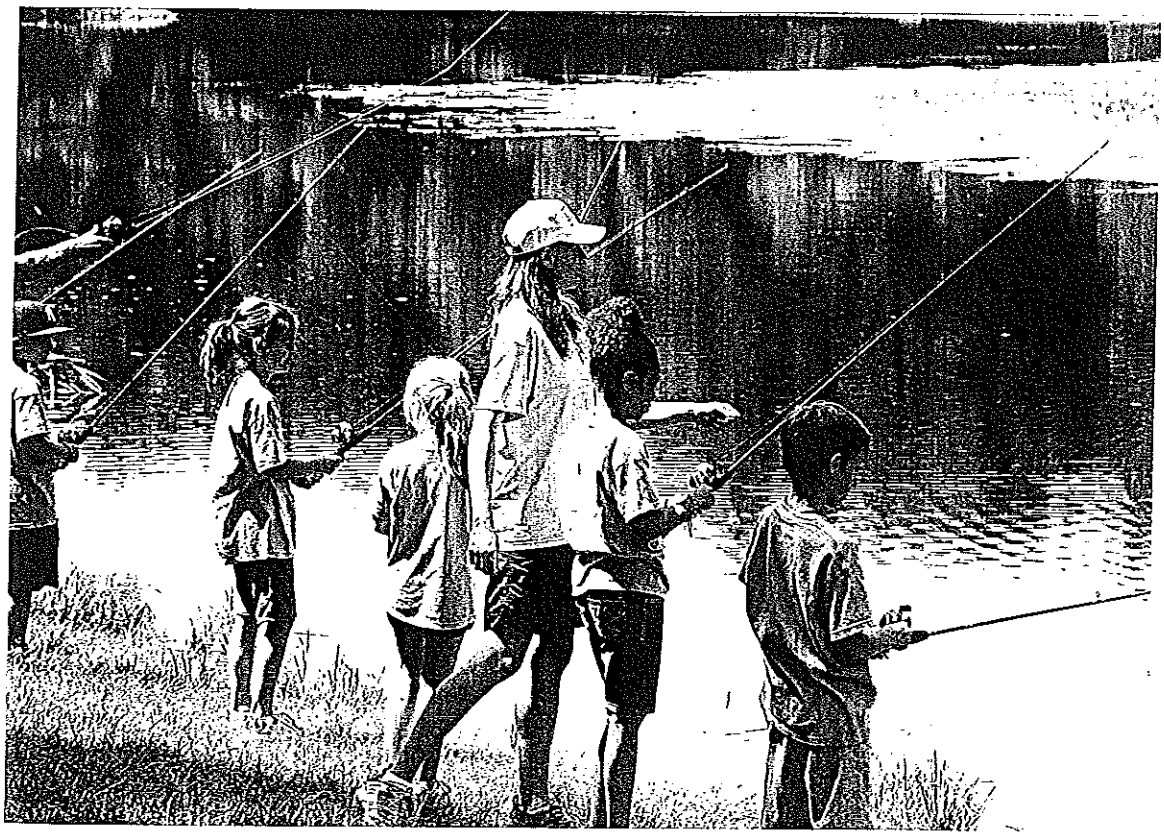
Summer Fishing Fun!

Written by Justin Wiggins, DEEP Inland Fisheries Division; Photography by Jim Murtagh, DEEP Certified Volunteer CARE Instructor

Do you remember catching your first fish? Like many life-long anglers, I remember it like it was yesterday! Mine was a pumpkinseed sunfish, caught on the banks of Lake Winfield in Plymouth, Connecticut, where I grew up. In fact, one of my first and favorite childhood memories is netting that very sunfish, placing the fine specimen in a five-gallon bucket for further investigation, and showing off my proud catch to parents, grandparents, siblings, and whoever else would listen. That five-gallon bucket I toted around with my pumpkinseed sparked the beginning of a passion and a career in FISH!



This happy young angler poses with his first catch, a sunfish!



Day campers line the banks of Lake Wintergreen in New Haven during a Summer Fishing Class.

The Inland Fisheries Division's Connecticut Aquatic Resources Education (CARE) Program provides the opportunity to learn about water, fish, and fishing. By instilling basic principles, practices, and rules of fishing, the goal is to create many memories of "first fish" and, as a result, create life-long anglers. Throughout the year, CARE accomplishes this goal by delivering the fishing message through several methods. First, "Family Fishing Courses" are continually offered around the state. They are taught by over 250 volunteers who have completed the official "CARE Instructor Training Course." Each of the instructors then facilitates formal educational classes

consisting of two hours of fun, hands-on classroom training followed by a fishing trip.

A second approach begins the last week of June when five seasonal employees are added to the CARE staff to teach Summer Fishing classes to day-campers around the state. The Summer Fishing Crew consists of science teachers out of school for summer, instructors in training, and college students aspiring for a career in the field of biology (several crew members have returned for over 10 seasons!). For seven weeks, the Summer Fishing Crew will venture out to lakes, ponds, and saltwater fishing piers to teach morning and afternoon classes to approximately 25-35 students per class. The first hour consists of environmental information presented through discussion and games, followed by an hour and a half of fishing. Water quality, pollution, biodegradation, species diversity, fish identification, knot-tying, bait selection, and safety around water are all on the agenda during the first hour. Then comes the 90 minutes of fishing!

A sunfish provided a lot of entertainment to this young family of anglers at a Summer Fishing "Family Night."

Armed with spincast rods and reels spooled with six-pound monofilament line, the Summer Fishing Crew and students make their way to the water. At the end of each fishing pole is a number 8-bait holder hook tied using the improved clinch knot. A small split-shot is placed a foot-and-a-half above the hook, and directly above that is a bobber (an excellent strike indicator). Bait of choice is the good ole' night crawler threaded on the hook like a sock onto a foot. Students "bait up" and walk to the water's edge. A gentle reminder to check behind to ensure a safe cast comes from a staff member. After safety is ensured, lines fly into the air and bobbers meet the water. The first bobber goes down and the excitement begins!

The quarry is (you guessed it!) the sunfish, a fine adversary for a nine-year-old child that is preparing to take his/her first cast with a fishing rod. Sunfish are densely populated in most lakes and ponds throughout Connecticut and often found roaming close to shore during summer. They are willing biters even on the hottest days, can be caught all day, and provide an excellent fight. What more can one ask for while seeking that elusive first fish? Thanks to some excellent opportunities provided by the Inland Fisheries Division, many Summer Fishing students experience the same thrill of having a "fighter" on the line just like many "grown up" counterparts who catch larger gamefish like catfish, bass, and even trout!

Research has shown that angling success during initial fishing experiences is a critical component in "hooking" a life-long angler. The Inland Fisheries Division has created opportunities for the public that dramatically increase angling success. To supplement already self-propagating fish populations, "Trout Parks" and "Community Fishing Lakes" are stocked frequently with trout from state fish hatcheries during spring and fall. Community Fishing Lakes are also stocked with catchable size (14-18 inches) channel catfish that are purchased from commercial suppliers each June. These locations offer easy access, ample shore fishing areas, and have bathrooms readily available. These sites also offer perfect conditions for introducing new anglers to the sport of fishing! In fact, over 40% of Summer Fishing classes are hosted at three "Community Fishing Lakes" – Lake Wintergreen, Keney Park Pond, and Bunnells Pond. These sites are located in the heart of large cities - New Haven, Hartford, and Bridgeport, respectively. Reliable partners in municipal park and recreation departments, YMCAs, Boys and Girls Clubs, and Outdoor Adventure Camps can easily transport students to these local hot spots.

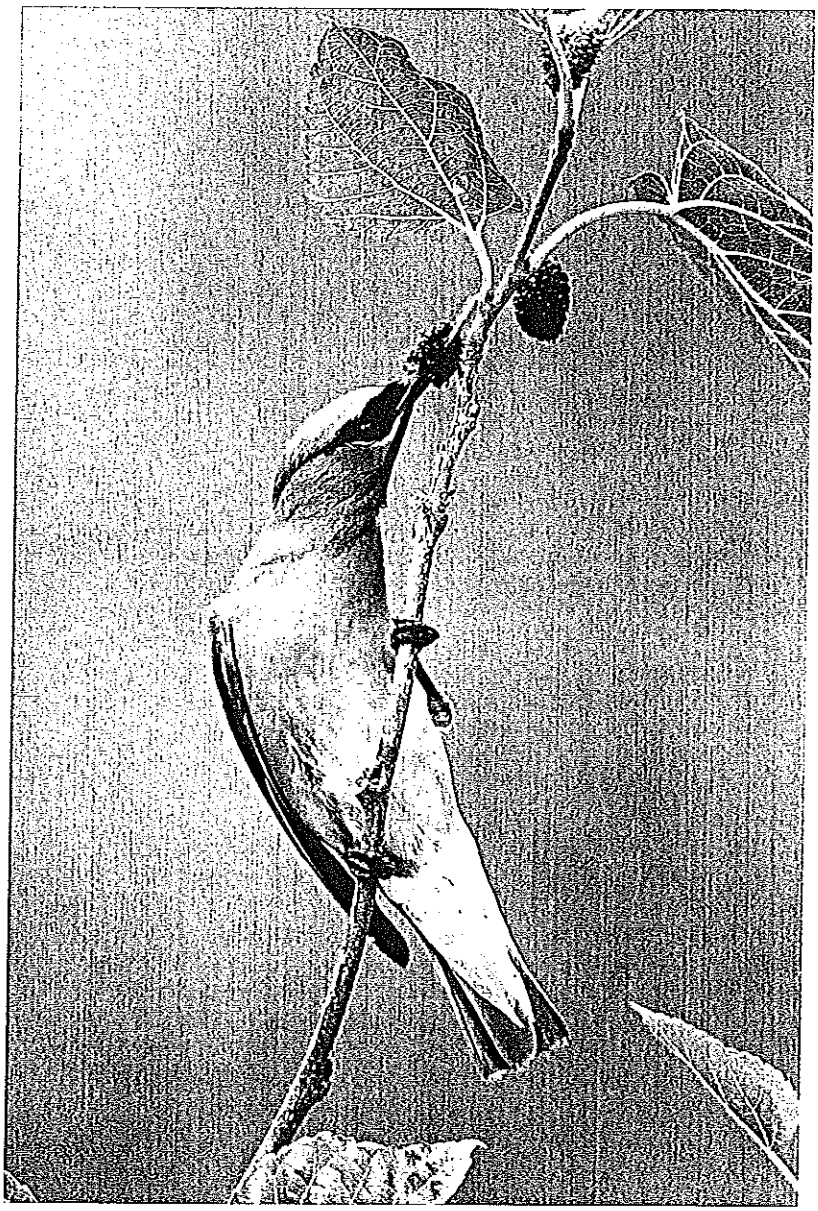
Another method was introduced this past summer and is an expansion of our Summer Fishing program. "Family Nights" were held to encourage the day-campers, now armed with their newfound angling expertise, to invite their families and return to the same waterbody for an evening of fishing. High attendance at these events proved that Summer Fishing classes were successful at delivering the message that fishing is a fun and exciting family activity. The Summer Fishing Crew received well-deserved praise from parents for their efforts. This past Summer Fishing season resulted in 1,521 day-campers being introduced to fishing, with an additional 359 students attending seven "Family Nights." Since 1990, the CARE Summer Fishing Crew has taught over 35,000 students, watching many of them catch their very first sunfish!

To learn more about the CARE Program, please visit the DEEP website at www.ct.gov/deep/CARE. The program is always looking for enthusiastic and caring individuals who would like to share their passion for fishing with others by becoming certified CARE Instructors. If this appeals to you and you think you have what it takes, please call the CARE Center at 860-663-1656 and speak with Tom or Justin. The next training session will be held in February 2013.

Sociable Wanderers - Cedar Waxwings

Article and photography by Paul Fusco, DEEP Wildlife Division

With a continuous series of clear, high-pitched whistling calls announcing their arrival, a flock of cedar waxwings descends into a small tree on a cold fall morning. The tree is a Japanese crabapple, holding thousands of ripened fruits that are ready for the opportunistic, berry-loving birds to eat.



Mulberries are a favorite for many species of birds and other wildlife, including cedar waxwings.

Within a few days, the berries will be gone and the flock will have moved on to its next fortuity. Such is the way of life for the waxwings. They are wanderers, nomads that are constantly on the move to their next food source. Waxwings are highly gregarious, and when one member of the flock finds food, the call goes out for the rest of the flock to join the gluttonous feast. In fact, waxwings are so sociable that they are often seen perching close together, side by side on a branch, sharing food by passing a berry back and forth before one finally eats it. At times, waxwings may consume large quantities of over-ripened, fermented berries and have been known to become intoxicated.

While berries are their favorite food, cedar waxwings will also eat flower petals and buds from fruit trees. In spring and summer, waxwings will catch insects by "hawking," that is hunting from an open perch to snatch a flying insect. Then, the birds will return to the perch to await their next opportunity. Among the insects waxwings are known to consume are beetles, cankerworms, tent caterpillars, and carpenter ants.

Description

The cedar waxwing is small, about the size of a bluebird. Named for its fondness for cedar berries, the waxwing is known colloquially as "the cedar bird." Descriptively, it is often referred to as elegant, dapper, and sleek. The plumage is silky brown and gray. The bird has a black mask and chin giving it a somewhat exotic appearance. The soft browns of the underside transition smoothly into a bright lemon yellow on the lower belly. The tail is gray with a bright yellow band at the tip. Waxwings have a short, brown crest which is frequently seen laying flat to the top of the head. In flight, they show broad pointed wings and short tails, making them similar in size and shape to the abundant European starling.

The characteristic that gives waxwings their name is the bright red waxy droplets ornamenting the tips of their secondary feathers. The waxy tips are a prolongation of feather shafts, colored by astaxanthin, a carotenoid pigment, and are not always visible.

The purpose of the waxy feather tips is uncertain, but one of the theories is that the waxy tips help prevent the ends of the secondary feathers from becoming prematurely broken or frayed by frequent wing fluttering in thick branches. Another theory states that the waxy tips on each wing correspond to bird's maturity, and is thought to serve as a visible breeding marker whereby males and females will pair and mate according to age. Considered to be late nesters, cedar waxwings synchronize their nesting season so that chicks are raised during the time of peak summer berry development.

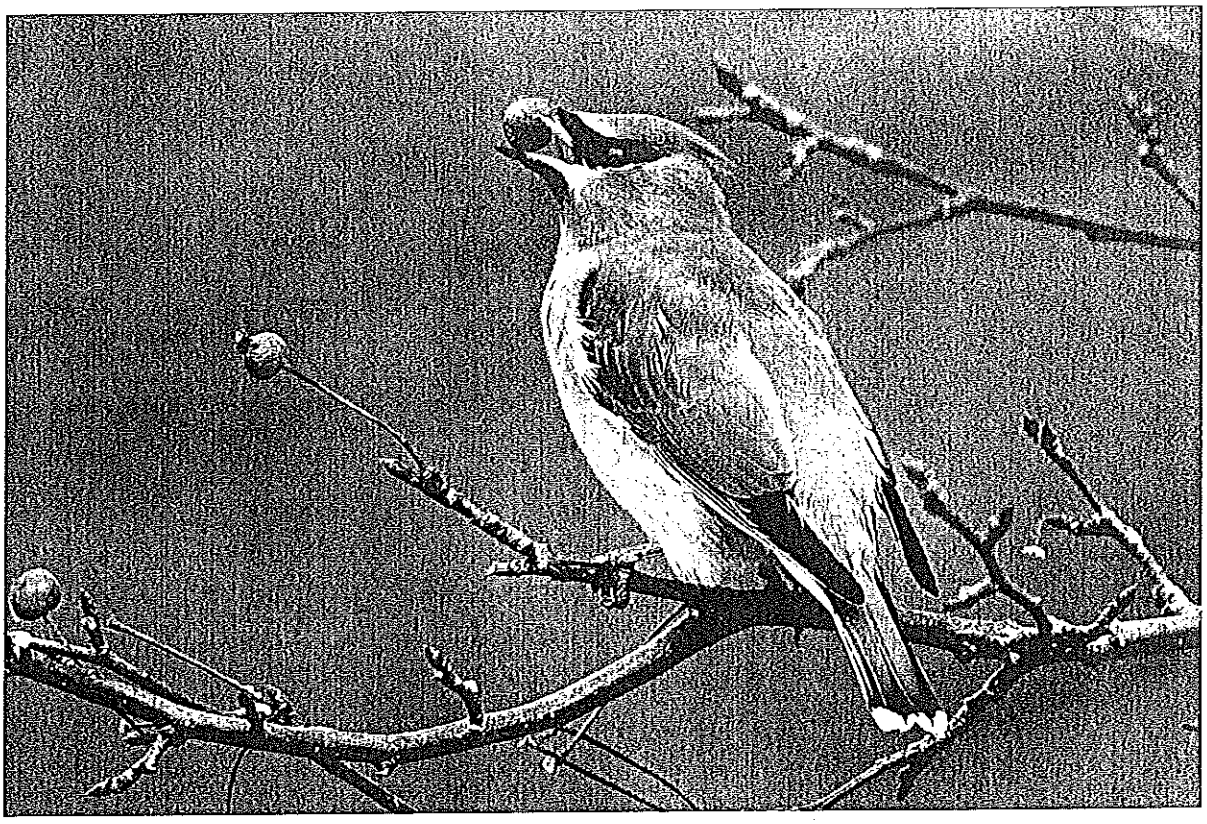
Open cup nests are built of twigs and grasses, with a lining of softer material, and placed at heights ranging from five to 50 feet off the ground. The normal clutch size is four to six pale blue or blue-gray eggs. The eggs may be spotted with dark speckles. Incubation takes 12 to 16 days and chicks fledge after 14 to 18 days. Two broods are frequently raised each year. Cedar waxwings are somewhat colonial and non-territorial, and can frequently be found nesting in loose groups.

Range and Habitat

Generally considered woodland birds, cedar waxwings can be found almost anywhere at any time. Because of their nomadic nature, they use a wide variety of habitats from urban to remote forests, from orchards to wetlands, wherever there are

fruiting trees and shrubs. Typically, fruiting plants are found around edges and open areas, and often near water.

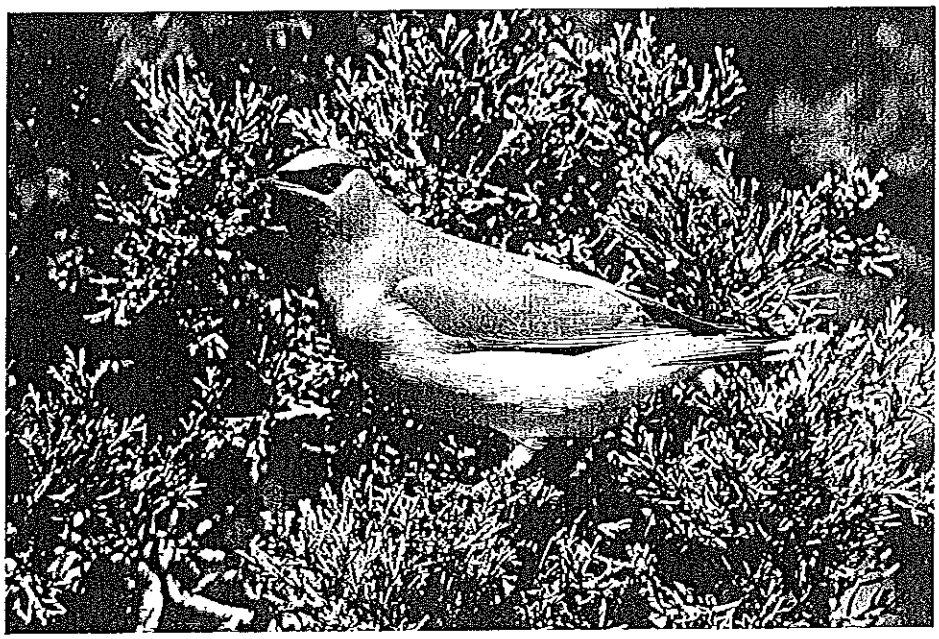
Suburban landscape plantings have greatly benefitted waxwings, as well as other fruit eating birds, such as robins and mockingbirds. Common backyard plantings like dogwoods, honeysuckle, crabapple, and mulberry produce berries that are relished by waxwings. Homeowners who wish to enhance their property for waxwings can plant native flowering fruit trees and shrubs that produce berries. Wild cherries, cedar, serviceberry, and winterberry are a few more plants that will attract waxwings.



Crabapple berries are another waxwing favorite.

Cedar waxwings are abundant throughout most of their range. The breeding range extends coast to coast from New Foundland and North Carolina in the east, to southeastern Alaska and northern California in the west. In winter, they may be found as far south as northernmost South America. In general, waxwings migrate south for the winter, but in Connecticut some birds will remain while others from farther north will come into our state to spend the winter.

In Connecticut, the distribution of cedar waxwings is statewide but their occurrence is unpredictable. Waxwing flocks may travel extensively in their search for food. At times, they can be hard to find, especially in winter when food becomes scarce. Look for them when the berries on local fruit trees are ripening.



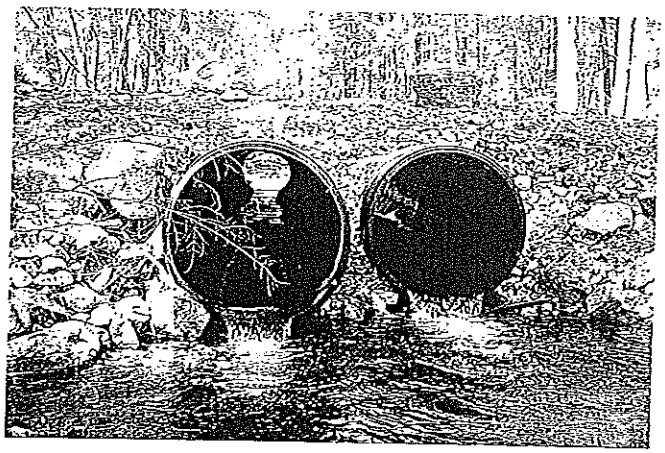
Named for their close association with cedar trees, cedar waxwings can often be found in stands of red cedar during fall and winter when the berry fruits are ripe. Note the red, waxy tip of the secondary feathers that give this bird its name.

Cedar waxwings are normally found in small to large flocks throughout the year. Most flocks include up to a dozen birds, while flocks with more than 50 are rare. The birds are frequently seen perched in a close-knit group at the top of a tree, vocalizing with soft whistles and calls, communicating constantly with one another. Together, their high-pitched, thin lispy calls of "*zeee, zeee*" are multiplied, creating a louder resonance. From the treetop, the flock will suddenly stir, as if on command, taking off all at once. The birds fly in a tight circle, then depart, only to land at the top of another tree some distance away. Next time you are out for a walk in the wild or your neighborhood, listen carefully for the soft, high-pitched calls of the wandering flocks of cedar waxwings. You never know when and where these sociable birds may show up.

Providing "Fish Friendly Passage" at Stream Crossings

Article and photography by Brian Murphy, DEEP Inland Fisheries Division

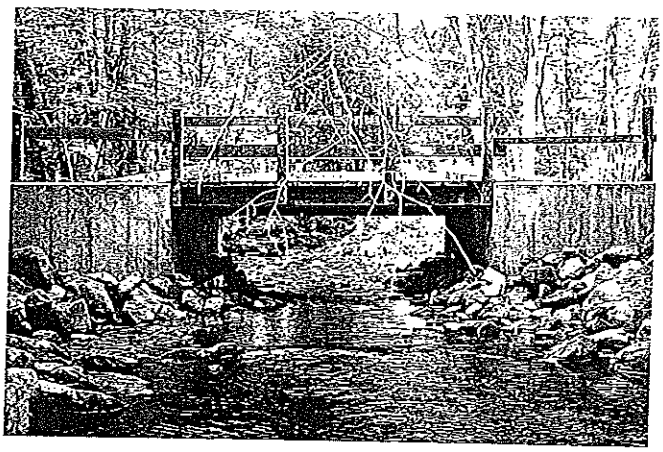
We travel on roads every day as part of our normal daily routine. Yet, lurking under these roadways are old culverts that convey streams and brooks, many of which block movement of upstream fish passage. While much attention has been focused on obtaining fish passage at dams, few residents are aware that poorly maintained or improperly installed culverts pose a serious threat to fish movements. Impassable culverts fragment or isolate fish populations within a stream network, preventing fish from reaching critical spawning, nursery, feeding, or seasonal refuge habitats important for growth and survival. Populations of native brook trout, which typically reside in stream headwaters, are often impacted by impassable culverts. Movements of other stream dependent species, such as white suckers, blacknose dace, and fallfish, as well as diadromous species like river herring and American eel, can also be impacted. Unfortunately, the northeastern U.S. has some of the highest density of road crossings in the country, with an average of 106 road crossings per 100 miles of river, thus creating numerous potential obstacles to fish movement.



Before restoration: Perched twin culverts at a stream crossing of Leadmine Brook, in Ashford, blocking upstream fish passage for native brook trout.

One of the more common problems in Connecticut is "perched" culverts that are situated above the elevation of the stream bottom at the culvert outlet (downstream end). These present physical barriers to upstream fish passage since most Connecticut stream fishes cannot jump high enough to gain entrance to the culvert. Another common problem is a culvert that creates shallow water or sheetflow conditions. Fish cannot swim through these structures due to insufficient water depths. Excessive water velocities create another problem, especially within smooth bottom culverts that do not contain natural streambed substrates. Culverts with excessive velocities cause many species to become physically exhausted and prohibit them from successfully navigating to the upstream side.

Municipal, state, and federal regulatory permits are required for stream crossing replacement projects. As part of the advisory permit review process, staff from the Inland Fisheries Division Habitat Conservation and Enhancement (HCE) Program have been assessing fish passage needs at stream crossings throughout Connecticut since the late 1980s. To facilitate construction of "fish passage friendly" culverts, HCE staff developed standard stream crossing guidelines, which can be found on the DEEP website at www.ct.gov/deep/lib/dep/fishing/restoration/streamcrossingguidelines.pdf. While the guidelines focus primarily on fish passage and protection of habitats, incorporating the suggested best management practices can also benefit other wildlife.



After restoration: Leadmine Brook twin culverts were removed and replaced with a clear span timber bridge, thus restoring fish passage to 2.9 miles of upstream habitats.

For new or replacement stream crossing projects, HCE Program staff typically recommend the installation of clear span bridges or bottomless arch culverts for the crossing of perennial streams. These structures are "fish passage friendly" because they do not create barriers or impediments to fish migration and preserve instream habitats. The goal is to create crossings that are essentially "invisible" to aquatic organisms by making them no more of an obstacle to movement than the natural channel. If culverts with a bottom have to be used, it is recommended that they be sunken or buried one to two feet below the existing streambed. This strategy provides for fish passage and creates more natural conditions in the culverts because native stream substrates are placed over the culvert bottom.

More recently, many aging, corrugated metal culverts that convey streams under major Connecticut highways are in need of repair or replacement. Because complete culvert removal can be expensive and presents a multitude of construction and traffic issues, alternate measures to extend culvert life have been proposed. Often referred to as "baby-boomer" culverts (a term used to describe infrastructure built post WWII), these culverts are being rehabilitated with a method called "sliplining." This technique involves placement and stabilization of a smaller diameter culvert within the failing culvert. Unfortunately, sliplining increases water velocities and may exacerbate existing perched conditions, making upstream fish passage a real challenge. HCE Program staff, in conjunction with the Connecticut Department of Transportation, are working hard to solve fish passage issues at these slipline projects. Culverts are proposed to be retrofitted using a variety of techniques, such as baffle systems, fishways, and rock weirs, to provide upstream fish passage.

HCE Program staff are available to provide technical guidance to municipalities and private landowners regarding the creation of fish passage friendly stream crossings. In eastern Connecticut, contact Brian D. Murphy at 860-295-9523 (brian.murphy@ct.gov) and, in western Connecticut, contact Donald J. Mysling at 860-567-8998 (donald.mysling@ct.gov).

2012 Connecticut Spring Wild Turkey Harvest

Written by Michael Gregonis, DEEP Wildlife Division

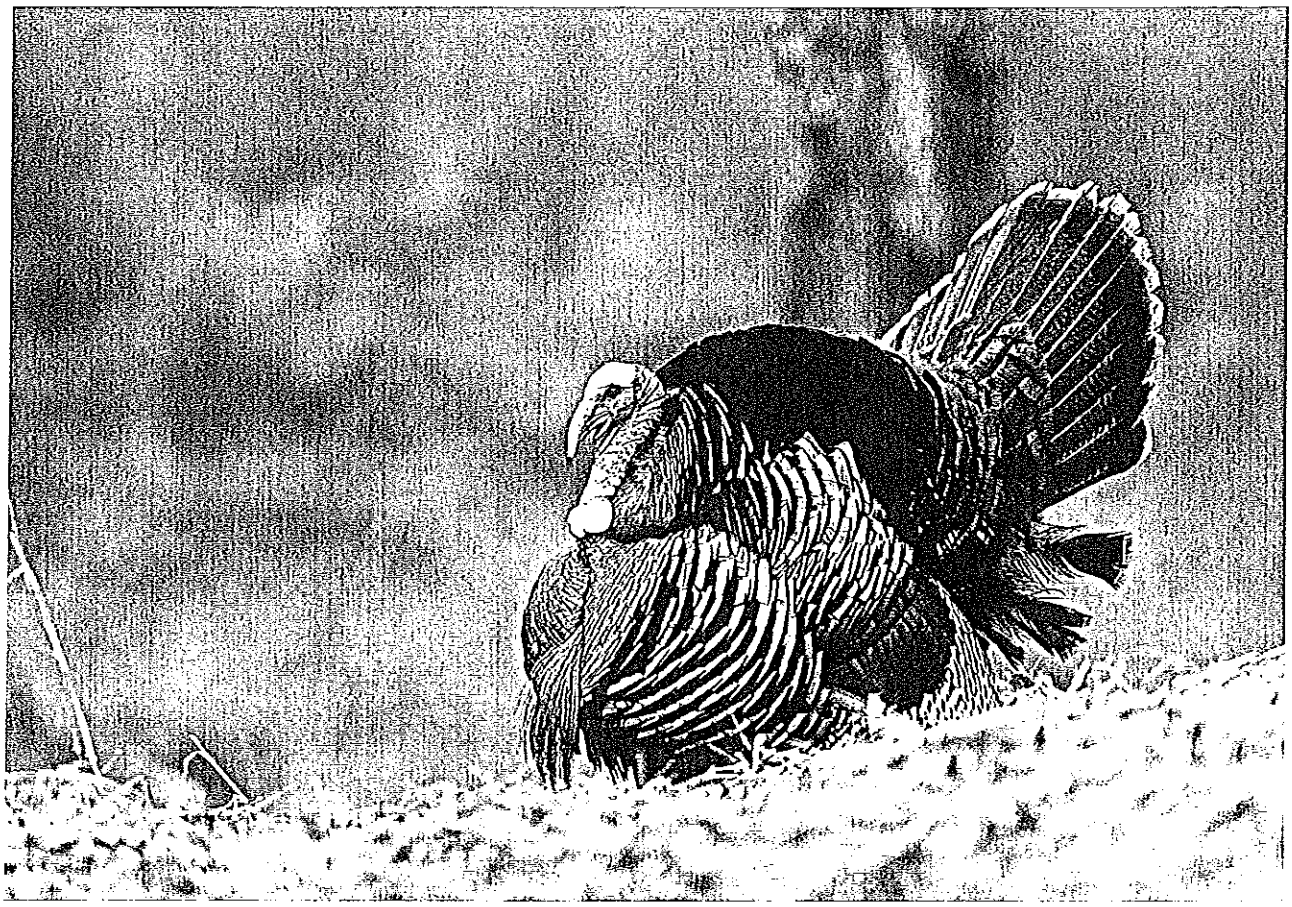


PHOTO BY P. J. FUSCO

The spring wild turkey season continues to be the most popular turkey hunting season. Many sportsmen enjoy hearing the gobble of a mature tom and the challenge of harvesting a wild turkey during spring. The 2012 spring turkey season was open statewide and ran from April 25 to May 26. A total of 8,615 permits were issued and 1,364 birds were harvested. At least one turkey was harvested by 583 hunters for a 6.8% statewide success rate. In addition, 263 hunters harvested two birds, 95 hunters harvested three birds, 11 hunters took four birds, and five hunters reported five birds. The harvest consisted of 937 adult males, 424 juvenile males, and three bearded hens.

Harvest decreased by 4.2% from 2011; however, permit issuance increased by nearly 44%. Although the 2012 permit issuance appears to indicate a large increase in spring turkey hunting permits, it may not reflect an actual increase in spring turkey hunters. The increase may be attributed to changes in a relatively new license packaging system. Some hunters, who had no intention of hunting turkeys, may have purchased a Firearms Supersport License or an Archery Supersport License (which includes a Spring Turkey Permit) because the package was less expensive than buying individual permits separately.

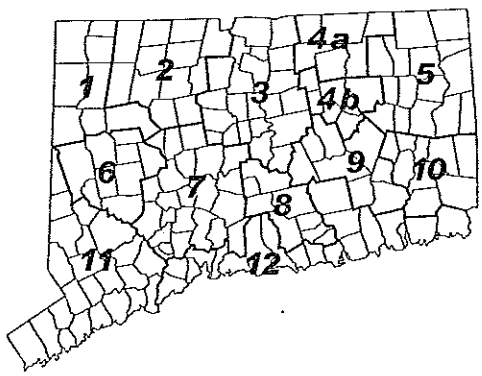
In general, the highest harvest occurs on opening day and on Saturdays. The 2012 spring season was no exception as 18% (239 birds) of the total harvest occurred on the first day of the season and 26% (357 birds) occurred during five Saturdays. It is assumed that the majority of hunters had time off on these days, enabling them to enjoy recreational activities.

At least one turkey was harvested from 144 of Connecticut's 169 towns (85%). Lebanon (36), Suffield (32), and Woodstock (30) reported the highest harvest. State land hunters reported the highest harvest from Pachaug State Forest (18), Cockaponset State Forest (15), and Tunxis State Forest (14). On a regional basis, the highest harvests were reported in wild turkey management zone 5 (216 birds), zone 2 (165 birds), and zone 1 (135 birds).

In an effort to provide a quality wild turkey hunting experience for junior hunters (ages 12 through 15), Connecticut holds junior turkey hunter training days on two Saturdays every April. This year, youths harvested 71 turkeys during the training days. Junior hunter training days have been well received by both participants and mentors as many positive comments are made on hunter surveys. These special days also prove to be a great way to introduce youth hunters to spring wild turkey hunting.

Although harvesting a wild turkey during the spring season can be a challenge, the rewards are plenty with excellent table fare and many watchable wildlife moments in the spring woodlands of Connecticut.

Connecticut Wildlife Management Zone Map



Deer Program Update 2012

Written by Andrew LaBonte, DEEP Wildlife Division

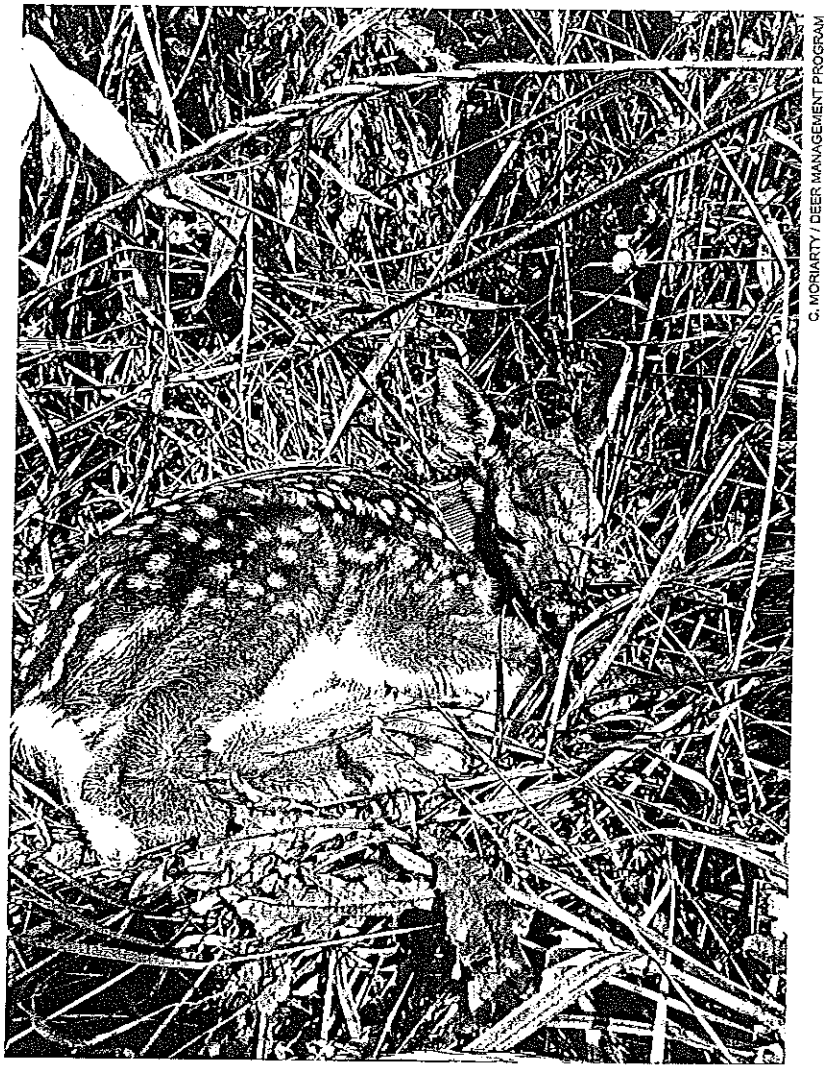
The DEEP Wildlife Division's Deer Program has been busy working on several projects this year.

Deer Study

An intensive, multi-year research project, which began in fall 2011, will determine fawn production, adult and juvenile survival rates, causes of mortality, and habitat use in northwest Connecticut (deer management zone 1). Deer Program staff conducted spotlight surveys in Sharon, Salisbury, Cornwall, and Canaan an hour after sunset from the back of a pickup truck on specified routes to determine fawn to doe ratios. Staff observed 0.36 fawns per doe, which was slightly lower than the number reported by hunters during the hunting season (0.40-0.53 fawns per doe).

The following winter (January-April, 2012), 26 adult female deer (15 in Sharon, 9 in Salisbury, and 2 in Cornwall) were captured and equipped with radio-collars, ear tags, and a temperature sensitive vaginal implant transmitter (VIT). Radio-collars were used to locate the adult females several times a week, using a hand-held receiver and antenna, to determine survival and movements. During the first six months of the study, adult survival was 92%. One deer was struck by a motor vehicle within a few days and one died in July of unknown causes.

During the fawning period (May 23-June 27), 22 fawns were captured and equipped with a radio-collar. Many does gave birth late at night and moved their fawns before morning, making it difficult to locate them. Most does (67%) gave birth to single fawns; 27% gave birth to twins and one doe gave birth to triplets. Fawns were born as close as 17 yards (avg. = 113 yards) from a road and 26 yards (avg. = 124 yards) from a house. Average birth rate was 1.4 fawns per doe. Average weight of fawns at birth was 7.5 pounds and 68% of fawns were male. A total of 10 fawns died within 90 days of birth. Sources of mortality included natural causes (40%), predation (20%), agricultural practices (20%), and unconfirmed causes (20%). The fawn survival rate is currently 50% (0.67 fawns per doe). It can be expected that a few more fawns will be lost to some source of mortality by the end of their first year. Analysis on deer movements and landscape use of does and fawns will be evaluated in the future, and there are plans to capture additional deer this winter.



C. MORIARTY / DEER MANAGEMENT PROGRAM

A total of 22 fawns were captured and equipped with a radio collars to determine survival rates, movements, and use of the landscape.

Chronic Wasting Disease Surveillance

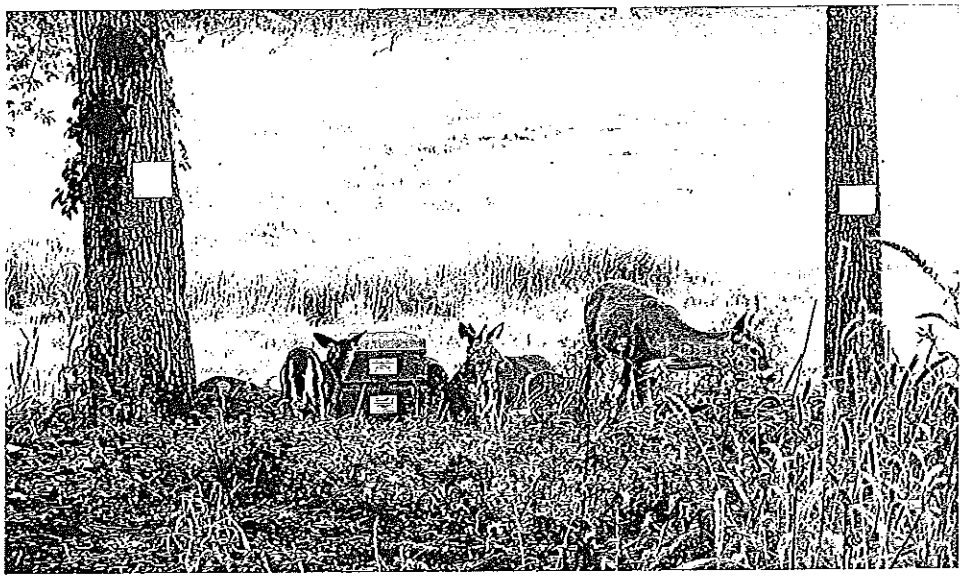
After nine years of chronic wasting disease (CWD) surveillance in Connecticut, funding provided by the U.S. Department of Agriculture, Animal and Plant Health Inspection Service was eliminated from the federal budget. CWD is a degenerative neurological disease that affects cervids, such as deer, elk, and moose. Since Connecticut began CWD surveillance in 2003, nearly 5,000 deer have tested negative. Of greatest concern to Connecticut's deer population has been the status of CWD in neighboring New York. CWD was first documented in 2005 in seven deer in New York. Over 32,000 deer have been tested in New York, with no additional cases documented. The outlook for the deer population in New York looks good and some previous restrictions related to CWD concerns are being lifted.

Unfortunately, each year CWD is being documented in new states, with the most recent case occurring in a captive cervid facility in Iowa in July 2012. Many of the states where CWD has been documented have large numbers of captive cervid facilities. The movement of captive cervids is believed to be the primary means affecting the spread of CWD from state to state. Concerns with these actions have prompted tighter restrictions on the captive cervid industry and restrictions on hunters in New York. Few captive cervid facilities exist in Connecticut, and those that do primarily consist of a few animals. Although a large source of funding for CWD monitoring has been lost, the Deer Program will continue to test deer displaying symptoms associated with CWD, such as emaciation, abnormal behavior, and loss of bodily functions.

Tick Sampling

Wildlife Division biologists, along with staff from the Connecticut Agricultural Experiment Station, have been assisting

the community of Mason's Island, in Mystic, in assessing the use of 4-poster devices to reduce tick populations in the small isolated community. Division staff has been collecting ticks at Mason's Island where the devices are being used and at a control site (Black Point) where no 4-poster devices exist. Over a five-year period (2008-2012), ticks were collected in June at 37 sites at Mason Island and 39 sites at Black Point. At Mason Island, tick density and infection rates declined over a four-year period, although cases of Lyme disease remained similar (infection rates and cases of Lyme disease are not yet available for 2012). In addition to using the 4-poster devices at Mason Island, 61-68% of residents have been using a commercial tickacide application on their properties. A tickacide was also used on open space lands. At Black Point, the control site, tick density essentially remained the same over the five-year period. It appears that the 4-poster devices, in conjunction with commercial tickacide application, have reduced tick density and the percentage of ticks carrying the Lyme disease spirochete. However, the rate of human cases of Lyme disease in the Mason Island community has shown little change.



H. KILPATRICK / DEER MANAGEMENT PROGRAM

The 4-poster device is a passive feeding station designed to control ticks on white-tailed deer. As deer feed on bait at the station, tickicide-treated rollers brush against the neck, head, and ears where many adult ticks feed.

Biological Data Collection

Biological data have been collected by Wildlife Division staff during peak days of the hunting season at select check stations since 1975. Data collected includes sex, age, dressed body weight, number of antler points, and beam diameter of yearling bucks. These data are used to assess the health of Connecticut's deer herd. An analysis of data collected over the past 18 years shows little change in the health of the deer population.

Beginning in 2011, in an effort to explore alternate means of collecting biological data, several questions were added to the online and telephone harvest reporting system that provided greater sample sizes and confidence levels, as well as a variety of data. Sex, age, and antler points can still be determined through this method, along with hunter observation rates. Observation rates are used to determine fawn:doe ratios, buck:doe ratios, and deer observed per hour.

With the advancement and convenience of the on-line and telephone reporting system, Deer Program staff is able to collect similar and additional data in a more efficient and practical manner, negating the need to continue collecting biological data at deer check stations. Based on responses from hunters on the 2010 hunter survey, most hunters (69%) were in favor of closing check stations if alternative methods were used to collect data on harvested deer. Moving forward, trend information generated from the new system should provide better insight into management of Connecticut's deer population. Hunters will be allowed to report harvested deer during the entire hunting season, including the first four days of the shotgun-rifle season, via the online and telephone reporting systems, and will not be required to bring their deer to a check station. Check stations will remain open for obtaining replacement tags for deer management zones 11 and 12, and during the first four days of the shotgun-rifle season, to accommodate those hunters who may not have been informed of the new changes.

P. J. FUSCO

Biological data have been collected by Wildlife Division staff during peak hunting days at select check stations since 1975. However, starting this year, hunters are no longer required to bring deer to a check station. Harvests should be reported via the online and telephone reporting systems.

A Welcome Alliance

Written by Rebecca Foster, DEEP Wildlife Division; photography by Paul Fusco

The 2012 piping plover and least tern nesting season in Connecticut has come to a close and the birds all likely migrated South by early September. The season was typical, with both ups and downs. One very positive note for the 2012 season was the tremendous assistance of the Audubon Alliance for Coastal Waterbirds (AAfCW) in its inaugural year. The AAfCW is an alliance between the two Audubon groups in Connecticut, Connecticut Audubon and Audubon Connecticut. The AAfCW was able to train, organize, and collect data from seven AAfCW seasonal field staff members and seven Audubon staff members, as well as all of the U.S. Fish and Wildlife Service (USFWS) volunteers, including Master Wildlife Conservationists, who help the DEEP Wildlife Division monitor our threatened shorebirds. The USFWS volunteer group was over 60 people strong in 2012, greatly increasing observations on beaches and strengthening educational efforts with the general public.

DEEP Piping Plover Technician Rebecca Foster putting up cautionary signs and string fencing in Stratford.

DEEP Seasonal Resource Assistant Brian Blais assisting with piping plover and least tern field work.

An Early Start

Beginning in March and ending in late August, the Wildlife Division locates, monitors, protects, and collects productivity data for the federally and state threatened piping plover and state threatened least tern populations along the Connecticut shoreline.

This year, piping plovers began arriving and establishing nesting territories in early March, somewhat sooner than is typical. Plovers and least terns scrape small inconspicuous nests in the sand, usually between dune vegetation and the high tide line. This, unfortunately, is also where most beach pedestrian traffic occurs.

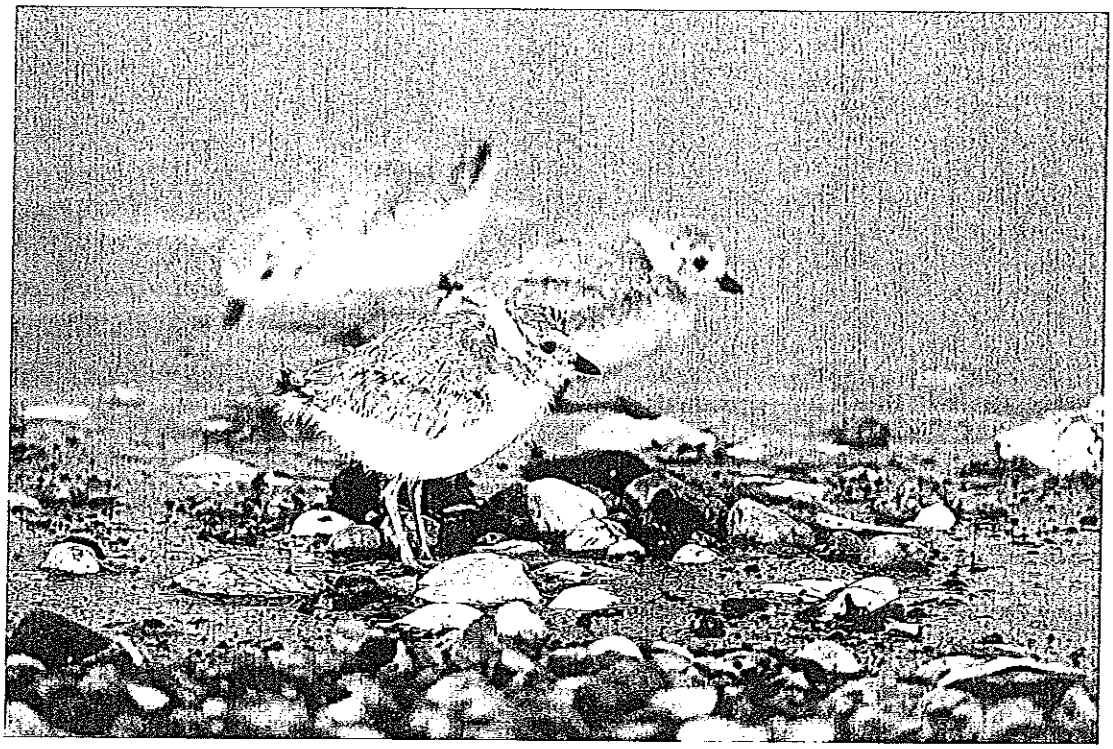
Once plovers were located, wooden and string fencing and cautionary signs were erected around the nesting areas with the help of the AAfCW staff and volunteers. The wooden fencing provides a "psychological barrier," both alerting beach-goers to the birds' presence and directing people away from nesting areas. Fencing is vitally important to prevent the vulnerable and camouflaged eggs from being stepped on. Once a piping plover nest is located, a team of trained individuals enters the fenced area to erect an "exclosure" around the nest. An exclosure is an oval metal cage with openings large enough for plovers to walk through, but small enough to prevent most mammalian predators from reaching the eggs. The exclosure is covered with fine netting to deter avian predators. Exclosures must be constructed and placed around the plover nest within a 20-minute window so that the eggs are not exposed to the elements while the adult bird is off the nest. Adhering to this timeframe also limits the amount of stress caused by the team's presence on the adult birds. With AAfCW staff assistance in erecting exclosures, plovers were able to return to their nests to incubate their eggs more quickly.

A Very Thorough Survey

DEEP staff was able to survey many more beaches for threatened shorebirds in 2012 than in previous years. If piping plovers successfully nest on a beach, they generally return to the same area the next year. Conversely, the birds may change locations from year to year due to human disturbance, predator "pressure," and nest losses. The Wildlife Division annually monitors 28 historical nesting sites from Greenwich to Stonington. However, most of the breeding pairs are concentrated on five beach complexes that support prime nesting habitat. In 2012, an additional 12 beaches were surveyed thanks to the increased manpower provided through the AAfCW and USFWS volunteers, with piping plovers found at two new sites.

Similar to the 2011 season, the greatest numbers of nesting

birds were found at Stratford, Milford, West Haven, Old Lyme, and Groton. Between these five sites, there were over 20 pairs of piping plovers and over 300 pairs of least terns – the largest concentrations of nesting plovers and terns in Connecticut. Two beaches in Fairfield and Westport that were used by plovers in 2011 were not used in 2012. Piping plovers will often shift to a new, nearby beach, but even with all of the additional surveys conducted in 2012, the two missing pairs from 2011 were not located.



P. J. FUSCO

Although final numbers for the 2012 piping plover nesting season are still being tabulated, productivity appeared to be negatively affected by human disturbance, weather events, and predation. These three juveniles were beating the odds as they foraged at one of the plover nesting beaches.

Low Plover Productivity

A number of factors contributed to low piping plover productivity in 2012. Human disturbance has always been and continues to be a barrier to successful piping plover nesting. Human disturbance may have caused at least two nest abandonments in Milford. Fencing was set up for a returning pair of plovers observed defending a territory at another beach in Milford. Unfortunately, a day later, the remains of two bonfires were observed just beside the nesting area. The plover pair left and was not observed again during the 2012 season.

Weather is often a contributing factor to nest losses. Storms, extreme highs and lows in temperature, and high tides all affect the plovers' ability to properly incubate eggs. As is common every season, at least three nests were washed-out by June high tides in Milford and Groton. Heavy rains early in the season may have contributed to several nest abandonments in West Haven.

This year, it is believed that predators had the largest negative impact on both nest and fledgling success statewide. Nests and chicks were lost to predators at five beaches. Foxes, raccoons, and black-backed gulls were observed in close proximity to nesting pairs throughout the season. In addition, predator tracks were frequently documented in the sand within nesting areas. On four occasions, at two beaches, a mammalian predator attempted to dig under exclosures to reach eggs. Exclosures are buried deep into the sand so the attempts were unsuccessful, but the "pressure" of the predator disturbance caused the adults to abandon their nests. In Old Lyme, nests were documented as hatching three and four chicks only to have the young chicks gone within a day or two. The Wildlife Division is working with the USFWS to address predator issues should they be an issue again in 2013.

Tern Numbers Similar to 2011

Least tern data collection for 2012 is still ongoing, but initial results indicate that the numbers of tern pairs, nests, chicks, and fledges will be similar if not slightly higher than those of 2011. The largest numbers of breeding least terns were found in Stratford, West Haven, Old Lyme, and Groton. Unfortunately, the predator(s) present in Stratford resulted in the failure of more than 22 observed least tern nests.

Human disturbance from recreation likely caused a number of nest abandonments in Groton. Many kayakers and boaters land and pull their boats up onto the beach precisely where the least terns are nesting. At this same site in Groton on a weekend day in July, 14 boats and many picnickers with grills and radios were observed recreating beside the protected shorebird areas. Human disturbance may have caused the terns to abandon the area – adult tern counts went from 26 pairs to 17 pairs to two pairs in a two week period. West Haven terns were the most productive, with over 165 fledges from more than 125 nests.

Public Education Is Key!

Threatened shorebirds must share the best nesting sites with people who also find the beaches ideal. Equestrians, kayakers, boaters, hikers, and, most importantly, beach-goers must all be made aware of sensitive nesting areas. Beach recreation can coexist along with nesting piping plovers and least terns as long as people maintain a safe distance from the fencing, obey postings, refrain from bringing dogs onto the beach, pack out garbage, and generally respect the space given to the nesting birds.

The DEEP Wildlife Division would like to sincerely thank the AAfCW and Audubon staff, and the USFWS volunteers for educating, immeasurably, more people on Connecticut beaches this year. Experience has demonstrated that if beach-goers are educated in a professional manner and shown literature and pictures of these beautiful birds, they become piping plover and least tern advocates. Public education and advocacy are crucial to maintaining and ultimately increasing Connecticut's threatened shorebird populations.

Measures in Place to Contain Destructive Emerald Ash Borer

Connecticut's ash trees are facing a serious threat due to the recent discovery of the invasive, non-native emerald ash borer (EAB) in areas of New Haven County. The EAB specifically targets ash trees, eventually killing them. Ash trees are an important species throughout Connecticut. In some parts, these trees comprise up to 19% of the forest. Ash is not only a source of economic revenue for the forest products industry and a favorite firewood of homeowners, but the trees are also ecologically significant as habitat for wildlife and in urban landscapes.

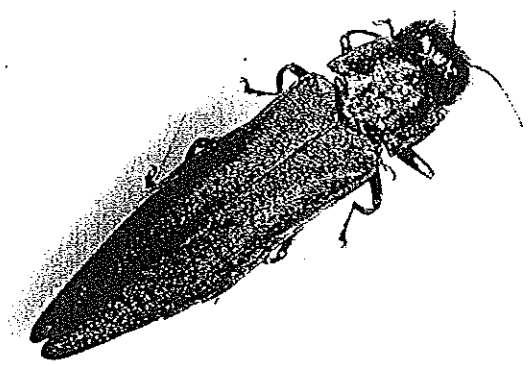
Unfortunately, research has shown that EAB cannot be eradicated. However, there is a strong chance infestations can be significantly slowed with the cooperation of Connecticut's visitors and residents, especially in the early stages of an infestation. DEEP is committing its resources and experience to prevent the widespread loss of the state's ash trees. This commitment includes supporting the Connecticut Agricultural Experiment Station (CAES) and its regulatory effort to slow the spread of this invasive insect.

CAES is requiring that all who transport firewood abide by emergency regulations to limit the movement of infested, or potentially infested ash wood into and within Connecticut. Both CAES and DEEP are asking that Connecticut's residents and visitors not move firewood out of Connecticut. You may be transporting harmful forest pests to other states unknowingly. Furthermore, other states have prohibited moving untreated firewood across their borders.

In addition to these regulations, CAES has placed a quarantine on New Haven County that regulates the movement of ash logs, ash materials, ash nursery stock, and hardwood firewood from within New Haven County to any area outside of that county. The quarantine mirrors a federal quarantine also imposed on New Haven County, and requires permits for the transport of many wood products in the state, especially products harvested in New Haven County. Restrictions on moving hardwood products, especially firewood, are necessary because the small insects can hide in the wood and be easily transported into uninfested areas. Ashwood is difficult to identify in mixed loads of firewood. Therefore, split firewood and wood intended to be cut and split cannot be moved out of New Haven County unless the wood is heat-treated in a drying kiln or the bark and some of the wood are removed to ensure that EABs are not present. The goal of these regulatory efforts is to provide clear guidance for all, to help protect our state's ash trees.

When transporting firewood within Connecticut, a document stating the origin and destination must be with the transporter. A Self-Issued Firewood Transportation Certificate is available on the DEEP website (www.ct.gov/deep/EAB) to comply with this regulatory requirement.

Any questions about the regulations can be directed to the DEEP Division of Forestry at 860-424-3630, or by email at deep.forestry@ct.gov. You may also contact CAES at 203-974-8474 or by email at CAES.StateEntomologist@ct.gov. Detailed information about EAB, the quarantine, emergency firewood regulations, and the necessary permits for transporting wood products can be found at www.ct.gov/deep/eab or www.ct.gov/caes.



CONNECTICUT AGRICULTURE EXPERIMENT STATION

Prevent the Spread of Invasive Insects

- **Leave firewood at home when going camping anywhere in Connecticut or out-of-state. That includes hunters heading to hunting camps for the upcoming season. Purchase campfire wood from vendors located near your campsite.**
- **Burn all firewood at your campsite before you leave and do not bring it back to Connecticut.**
- **When purchasing firewood for the upcoming winter season, buy locally and make sure your supplier is following the emergency regulations and has obtained the proper permits for transporting wood.**
- **Report any possible infestations of the emerald ash borer or Asian longhorned beetle to the Connecticut Agricultural Experiment Station at 203-974-8474 or CAES.StateEntomologist@ct.gov. Please do not move the insect or wood from the site. Take a digital photo and send it to the email address above. Give a precise description of the location of the tree so that an investigator from CAES can visit the site.**

Detecting the Emerald Ash Borer

Efforts to monitor for EAB in Connecticut have been in place ever since this destructive insect was confirmed just over the state border in New York. This year, 541 purple prism detection traps, containing a special chemical lure, were placed across the state by the University of Connecticut Cooperative Extension System via an agreement with the USDA APHIS PPQ.

In addition, the U.S. Forest Service is supporting "biosurveillance" monitoring efforts that use a ground-nesting, native wasp (*Cerceris fumipennis*). This wasp hunts for buprestid beetles of all types (including EAB) and brings them back to its nesting hole to provide food for its young. Citizen scientist "wasp watchers" catch the wasp as it returns to the nest, taking the prey to determine if the wasps are foraging on EAB. This highly efficient and effective survey tool was responsible for the initial detection of EAB specimens in Prospect. Three additional EAB specimens were captured in a trap in Prospect, while other beetles were captured in a trap in Naugatuck. With this discovery, Connecticut became the 16th state in the nation to document this invasive beetle.

The EAB is small – approximately 1/2-inch long and 1/8-inch wide – and metallic green in color. Adults emerge from the bark of infested trees leaving a small "D"-shaped exit hole roughly 1/8-inch in diameter. This insect is native to Asia and was first discovered in 2002 in the Detroit, Michigan, and Windsor, Ontario, regions of North America. It has since spread through the movement of firewood, solid-wood packing materials, infested ash trees, and by natural flight dispersal.

Canada Goose

Brant canadensis

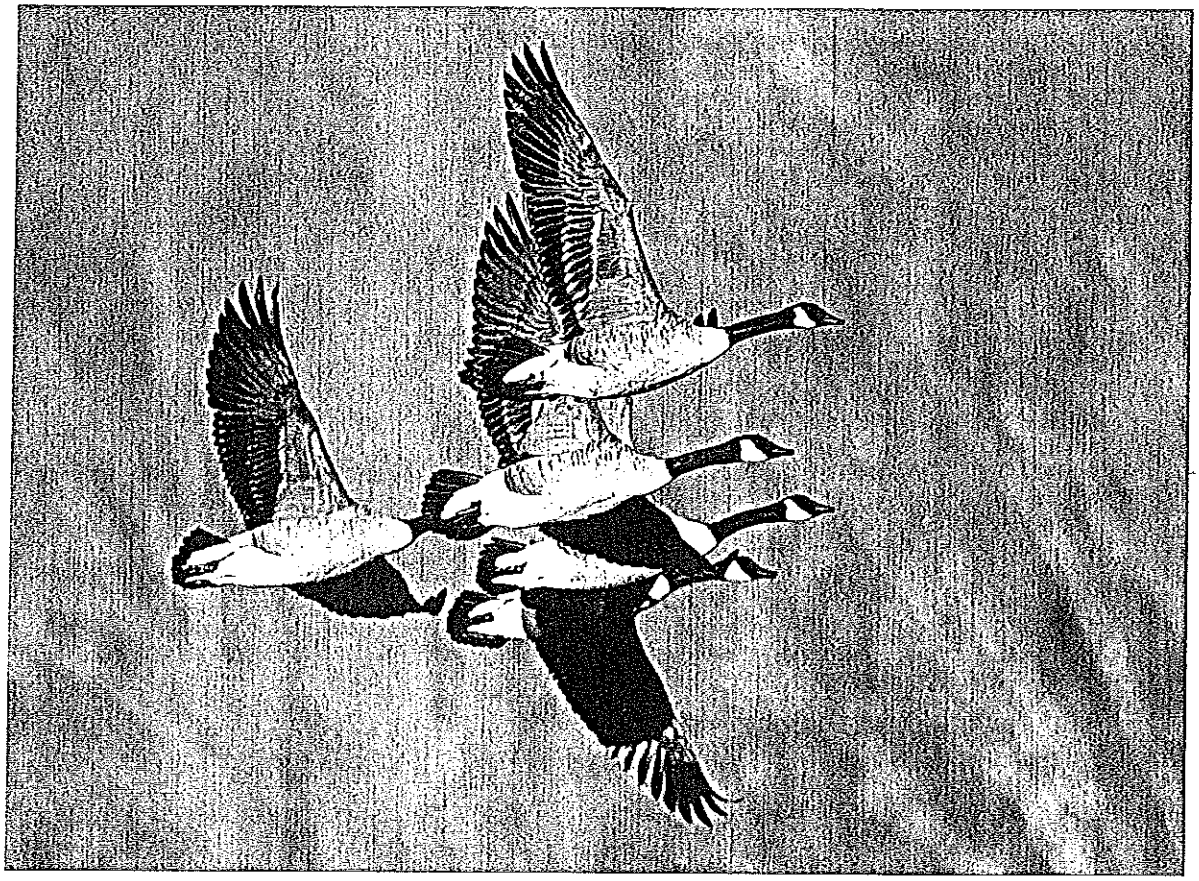


PHOTO BY P. J. FUSCO

Background

The Canada goose was abundant in Connecticut during colonial times, principally as a migrant. Unregulated hunting and market hunting in the 1700s and 1800s caused a population decline. However, protective measures in the early 1900s gradually reversed this trend. Releases of geese by game breeders, sportsmen, private groups, and the State Board of Fisheries and Game resulted in an established population of resident geese that eventually spread throughout the state. Currently, Canada geese nest statewide, with the highest populations occurring in the 3 most urbanized counties (Fairfield, Hartford, and New Haven counties).

Canada goose numbers have increased substantially over the last 50 years. This increase is due to the ability of geese to adapt to man's landscaping practices. The multitude of new ponds, lakeside lawns, golf courses, and athletic fields created since the 1950s have resulted in a large expansion of the goose population. These areas provide the right combination of water, cover, and grazing sites for geese.

The establishment of special hunting seasons that focus on the harvest of resident geese have helped in controlling the resident goose population. Breeding waterfowl population survey data indicate that the resident Canada goose population is declining in those areas of the state where hunters are provided access to the birds during the hunting seasons.

Range

"Migrant" populations of Canada geese nest in Alaska and northern Canada and primarily winter in the United States. "Resident" populations, which are non-migratory, have become established since the 1950s and nest throughout the United States.

Description

The Canada goose is Connecticut's largest native waterfowl species, weighing between 6 and 13 pounds and measuring 22-48 inches. It is easily recognized by its black head, bill, and neck that contrast strikingly with a pale gray breast. The distinct white cheek patch, or chinstrap, that covers the throat is a characteristic field mark. The birds are gray-brown to dark brown on the back and wings and white on the belly; they have a black rump and tail feathers that are separated by a narrow but distinct band of white feathers.

Habitat and Diet

Canada geese are found in a variety of habitats that are located near water bodies, such as lakes, marshes, ponds, reservoirs, and rivers. Geese also are attracted to open grassy areas like lawns, parks, golf courses, athletic fields, and airports, as well as agricultural fields. These habitats provide ample food in the form of aquatic plants, seeds, clovers, cultivated grains, and lawn grass. When inland freshwater areas freeze in Connecticut, geese concentrate in the bays and inlets of Long Island Sound.

Life History

Canada geese are among Connecticut's earliest spring nesters. They may start to defend territories in March and nest by early April. Yearling geese generally do not attempt to nest; about one-third of 2-year-old birds nest, as do most of the 3-year-olds. Canada geese are monogamous and pairs mate for life. They use a variety of nest sites, such as islands, man-made structures, muskrat and beaver lodges, and shoreline edges. Nest site requirements include proximity to water, cover for the nest, and good visibility for the incubating bird. Usually 4 to 7 white eggs are laid and incubated by the female while the male stands guard a short distance away. Incubation lasts about 28 days. Hatching occurs from April through June, with the peak occurring the first week of May. Nesting success and gosling survival are generally high. Most nest losses are caused by flooding, desertion,

and predation. Egg predators include raccoons, skunks, foxes, coyotes, dogs, and gulls. Young goslings may be preyed upon by snapping turtles, gulls, owls, and coyotes.

Interesting Facts

Year-round resident geese that breed in the state are distinct from migratory populations that nest in the northern Canadian provinces. Most migrant geese that occur in Connecticut breed in Labrador, Newfoundland, and northern Quebec, arriving in Connecticut in early October. Migration continues through November with another peak number of migrants arriving in mid-December. Most migrant geese leave the state by mid-January to continue further south. However, in some years with mild winters, substantial numbers of migrant geese have remained in Connecticut the entire winter.

Flocks of geese travel in long lines, flying in V-formations. Their raucous honking can be heard for miles. The resonant calls from flocks of migrating geese have long been a welcome harbinger of autumn.

Resident geese sometimes serve as decoys, attracting migrant waterfowl. This can lead to crowded conditions and encourage the spread of diseases through the wild population. Further complicating the situation in Connecticut is the feeding of geese by the public. Geese and ducks that are fed nutritionally deficient food, such as bread, may be more susceptible to disease and malnutrition. Supplemental feeding of geese also creates unsanitary conditions and public safety issues at feeding areas. The DEEP Wildlife Division strongly discourages the supplemental feeding of geese and other waterfowl. Consult the Division's publication, "Do Not Feed Waterfowl," to learn how you can help waterfowl by NOT feeding them.

Conservation and Management

All migratory game birds, including Canada geese, are managed by the U. S. Fish and Wildlife Service. Biologists manage the migrant and resident populations differently even though the two overlap during fall and winter and are indistinguishable in appearance. The migrant population is generally susceptible to high hunting pressure because of its long migration. The resident population receives too little hunting pressure. Special hunting seasons, timed to occur when migrants are not present in Connecticut, are used to direct hunting pressure toward resident geese. Regulated hunting is an effective management tool which can reduce nuisance problems. However, many nuisance goose problems occur in urban and suburban areas where hunting may not be a viable option.

Non-lethal techniques can be effective, particularly if several different methods are used in concert with each other and at the appropriate time. However, most of the available non-lethal methods, except for habitat modification, are transitory in their effectiveness. If habitat is not altered and human tolerance of nuisance geese does not change, some level of population reduction, together with non-lethal conditioning, is the only long-term, successful option.

Reducing the number of breeding adults is the only way to achieve and maintain a population decline of resident Canada geese. There are a number of ways to remove adult geese, such as regulated hunting and the issuance of federal depredation permits. Connecticut has liberal goose hunting seasons and hunting has resulted in a decline of goose numbers and problems in areas where hunters have access to the birds. However, hunting is limited in urban areas, making it necessary to use other means to reduce adult survival.

A separate fact sheet on how to deal specifically with nuisance goose problems is available on the DEEP's Web site (www.ct.gov/deep/wildlife) or by calling the Wildlife Division at 860-424-3011.

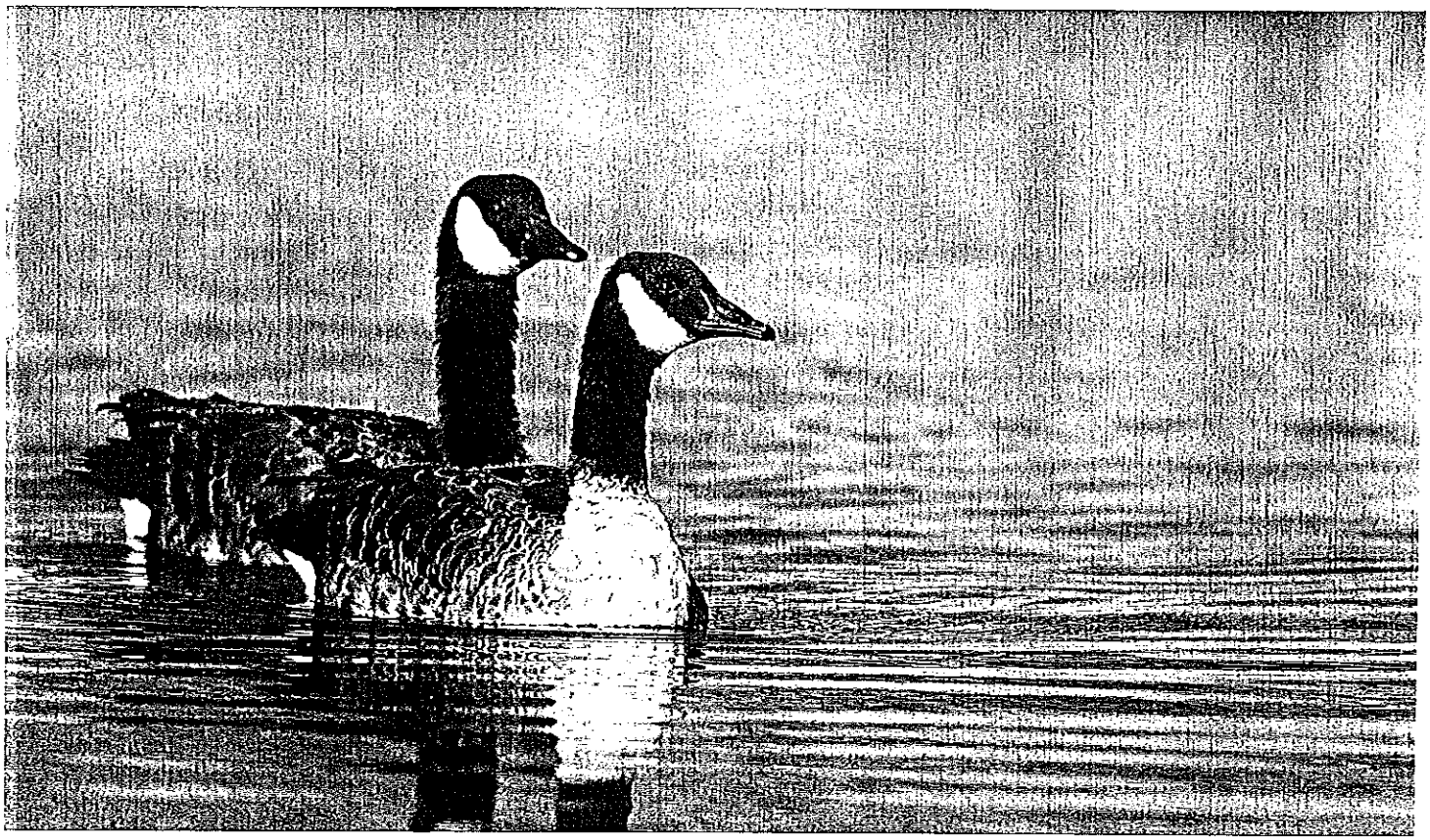


PHOTO BY P. J. FUSCO

Conservation Calendar

Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by calling 860-675-8130 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

Oct. 9 ..... **Beaver Marsh Fall Evening Walk,** starting at 5:15 PM. Join DEEP Wildlife Division Natural Resource Educator Laura Rogers-Castro on an evening walk to the Beaver Marsh at Sessions Woods. View signs of fall along the trail during this two-mile round trip hike. Learn about beavers and other marsh animals as we explore this wetland habitat and beautiful location in the wildlife management area. Participants should dress appropriately and bring water.

Dec. 1 ..... **The Wolves & Bears of Yellowstone,** starting at 1:30 PM. Master Wildlife Conservationist and Photographer Gary Melnysyn returns to Sessions Woods to present an informative program on wolves and bears. The program will provide insight on the reintroduction of the wolf population to Yellowstone in 1995, and the successful growth of the population and its current status. Gary also will present information about wolf habitat, predation, and social structure. The bear portion of the program discusses the plight of the grizzly bear from the very beginnings of park history through the Grizzly Bear Recovery Act and ending with the current status of grizzlies in Yellowstone.

Nov. 3 ..... **Children's Program: Migration and Hibernation,** starting at 1:30 PM. How do animals get ready for winter? What changes do we see in the forest as the days get shorter and the nights longer? Take a walk at Sessions Woods with educator Laura Rogers-Castro to look for signs that winter is soon to arrive! Please wear appropriate outdoor gear and meet in the exhibit area of the Conservation Education Center.

Dec. 15 ..... **Meet & Greet Reception,** from 2:00 to 4:00 PM. Visit Sessions Woods for an open house to meet photographer and Master Wildlife Conservationist Gary Melnysyn and view his award-winning photography. Gary is an avid outdoor enthusiast and has been interested in wildlife from a very young age. A self-taught photographer, Gary's travels have taken him from the far reaches of Alaska, across the Canadian tundra, through the wilderness of Montana and Wyoming, southwest to the shores of the Sea of Cortez, through the Great Divide, and into the deep woods of Maine. Gary's passion for photography, combined with his wildlife background, results in stunning, wildlife images. If you like bears, birds, and breath-taking scenes, you won't want to miss this unique opportunity.

Hunting Season Dates

Sept. 15-Nov. 13 ..... First portion of the deer and turkey bowhunting season on state land (season extends until Dec. 31 on State Land Bowhunting Only Areas).

Sept. 15-Dec. 31 ..... Deer and turkey bowhunting season on private land (private land bowhunters in deer management zones 11 & 12 may hunt deer until January 31, 2013).

Oct. 6 & Nov. 3 ..... Junior Waterfowl Hunter Training Days

Oct. 13 ..... Junior Pheasant Hunter Training Day

Oct. 20 ..... Opening Day for the small game hunting season

Nov. 3 & Nov. 10 ..... Junior Deer Hunter Training Days

Nov. 14-Dec. 4 ..... Private land shotgun/rifle deer hunting season

Consult the 2012 Connecticut Hunting and Trapping Guide and the 2012-2013 Migratory Bird Hunting Guide for specific season dates and details. Printed guides can be found at DEEP facilities, town halls, and outdoor equipment stores. The guides also are available on the DEEP Web site (www.ct.gov/deep/hunting). Go to www.ct.gov/deep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

Connecticut Wildlife

Subscription Order

Please make checks payable to:
Connecticut Wildlife, P.O. Box 1550, Burlington, CT 06013

Check one:

☐ 1 Year ($8.00) ☐ 2 Years ($15.00) ☐ 3 Years ($20.00)

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Help fund projects that benefit songbirds, threatened and endangered species, reptiles, amphibians, bats, and other wildlife species.

Order on-line with a credit card through the DEEP Store at: www.ct.gov/deep/WildlifeMagazine

Connecticut Wildlife

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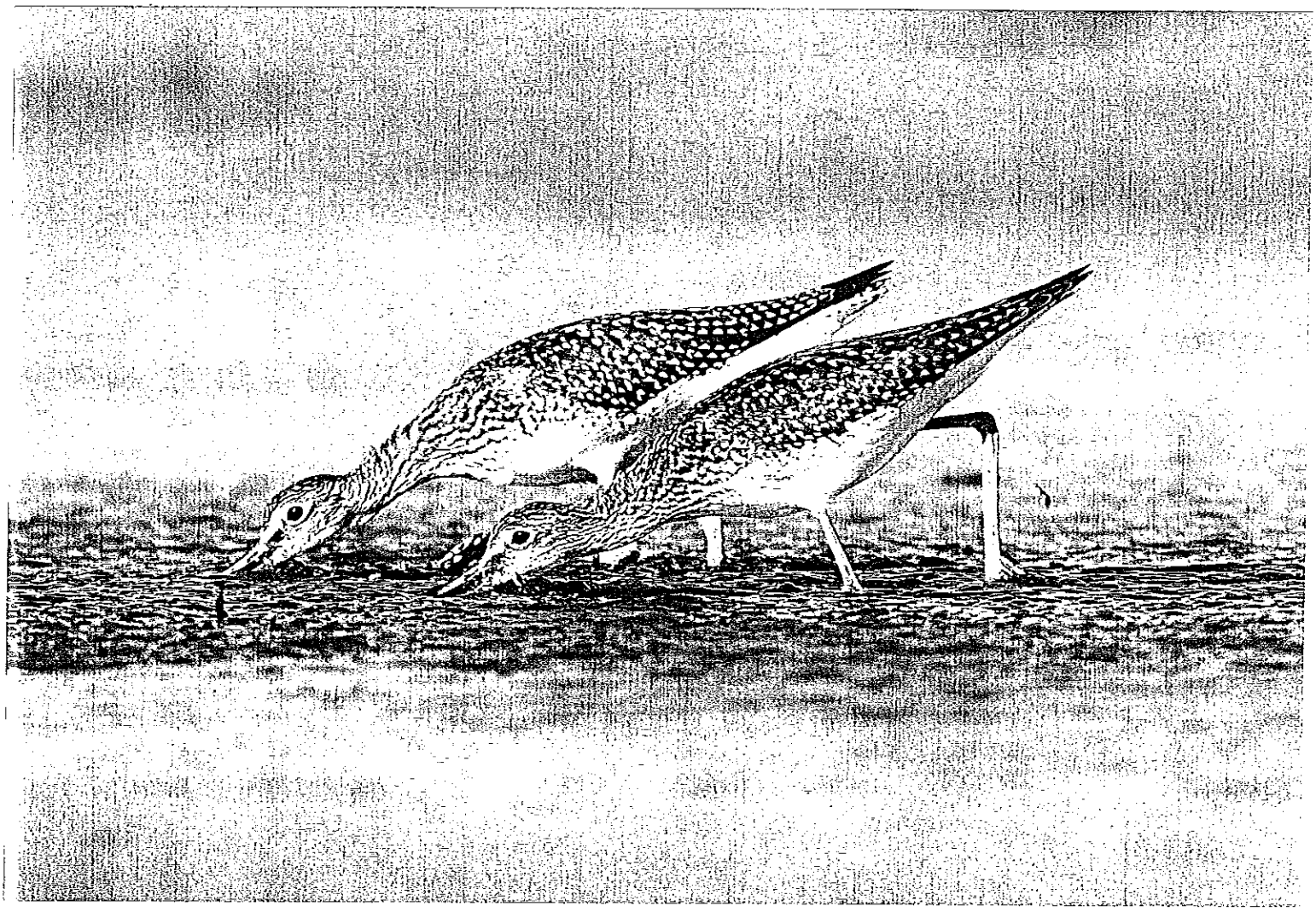


P. J. FUSCO

A pair of greater yellowlegs chases after minnows in a flowing creek along the Connecticut shoreline. Small wetlands and tidal creeks are important habitats for migratory shorebirds and other wildlife. Such places are recognized as migratory bird stopover habitats, where migrants are able to refuel and rest as they continue their sometimes long and demanding journeys.

Connecticut Association of Conservation and Inland Wetlands Commissions, Inc.

deKoven House Community Center
27 Washington Street
Middletown, CT 06457
860 344-8321
www.caciwc.org

September 27, 2012

Greetings to our Connecticut Conservation and Inland Wetlands Commissions

The CACIWC Board of Directors is very pleased to invite you to our **35th Annual Meeting and Environmental Conference,** scheduled for Saturday, November 17, 2012 at Four Points by Sheraton in Meriden, CT (*note new location*). This year we will be hosting *Dr. Michael Klemens,* as our keynote speaker. Dr. Klemens will present his thoughts on *Ecological Stewardship and Economic Development: Do We Have to Choose?* During our business meeting, we will be voting on several bylaws amendments (over) designed to provide us with more flexibility in recruiting members to our board.

The CACIWC Annual Meeting Committee has scheduled a series of informative speakers and workshops on a host of relevant topics for both experienced and new conservation and inland wetlands commissioners and staff. This year's workshops are arranged within four reconfigured tracks: Open Space & Conservation Biology, Land Use Law & Legal Updates, Wetlands Science & Engineering, and Commission Administration and Planning. Additional details can be found at www.caciwc.org and in the fall issue of *The Habitat* that will be arriving in your mailbox shortly.

While we have raised our basic registration fees, we are offering a $15 discount to commissioners and staff of commissions who have paid their 2012-13 membership dues (see list on the reverse side of the registration form). The savings from sending just four members to the meeting will cover your annual membership dues. Please complete a copy of the attached registration form for each attendee and return it to us before the Wednesday, October 31, 2012 deadline to save an additional $10. Want to renew your commission membership? The 2012-13 membership renewal form can be found at www.caciwc.org. Please direct any questions to us at: AnnualMtg@caciwc.org

We are also asking you to consider making an additional individual contribution to CACIWC this year to help defray the increasing expenses of operating our annual conference. (See additional categories on the bottom of the form.) Your prompt return of the completed registration form and check to CACIWC at the above address will help us fund our annual meeting, future issues of *The Habitat,* and additional proposed education and training sessions that we are planning.

The CACIWC Board and I thank you and hope to see you at the conference!
Alan J. Siniscalchi, President

CONNECTICUT ASSOCIATION OF CONSERVATION
& INLAND WETLANDS COMMISSIONS, INC.

BYLAWS

Adopted 1977; amended 1984, 1993, 2000, 2005 2012 Proposed (deletions in brackets, additions are underlined)

ARTICLE I - NAME, PURPOSE, and OFFICES

1.4 The principal office of the association is located in the Town of [Vernon] Middletown, County of [Tolland] Middlesex, State of Connecticut.

ARTICLE IV - BOARD OF DIRECTORS

4.1 The Board of Directors shall consist of:
- the four officers of the association;
- eight County Representatives, one from each Connecticut county ;
- eight Alternate County Representatives, one from each Connecticut county;
- up to three Alternate at Large Representatives from any Connecticut County; and
- past presidents of the association (ex officio, without voting power).

ARTICLE VII - ELECTION AND TERMS OF OFFICE

7.1 Officers and directors of the Board of Directors shall be elected at the Annual Meeting and shall serve for a term of two years, or until his/her successor has been elected and has taken office. Any past or present member or designated agent / enforcement officer of a Connecticut Conservation or Inland Wetlands Commission / Agency may be elected to the Board of Directors as an Officer, County, or Alternate County Representative. Any Connecticut resident with experience working on conservation issues may be elected to the Board of Directors as an Alternate at Large Representative.

ARTICLE X - MEETINGS

10.3.5 An Alternate County Representative or Alternate at Large Representative shall be entitled to vote at meetings of the Board of Directors if he/she is substituting for [the] a County Representative or is seated by the President. No more than 12 voting members may be seated at any Board of Directors meeting.

Connecticut Association of Conservation & Inland Wetlands Commissions
35th Annual Meeting & Environmental Conference
Saturday, November 17, 2012
Four Points by Sheraton (275 Research Parkway Meriden, CT 06450)

Registration Form

Name: _____
Town: _____
Commission name: _____
Phone: _____ **Email:** _____

Workshop cost includes continental breakfast, hot lunch, workshops, and gratuities.
( ) Enclosed is my $40 check (members & staff of CACIWC member commissions in good standing, registration postmarked by October 31, 2012)
( ) Enclosed is my $50 check (members, postmarked after October 31, 2012)
( ) Enclosed is my $55 check (non-members, postmarked by October 31, 2012)
( ) Enclosed is my $65 check (non-members, postmarked after October 31, 2012)
( ) My town will submit payment prior to event.
No refunds after November 9, 2012 Questions? Please contact us at: AnnualMtg@caciwc.org

Please make checks payable to CACIWC. Return to CACIWC deKoven House Community Center, 27 Washington Street, Middletown, CT 06457; also see: www.caciwc.org

I will attend the following workshops: (Please check one workshop per session)
Session 1 9:30-10:30 AM
( ) A1. "New Approaches to Natural Resource Inventories"
( ) B1. "Working with Expert Consultants"
( ) C1. "Vernal Pools: Road Effects on Biochemical Cycling & Amphibian Performance"
( ) D1. "The State Plan of Conservation and Development (POCD): Next Steps"

Session 2 10:45-11:45 AM
( ) A2. "CT Wildlife Update: Declining Birds, Declining Dollars: Cause and Effect"
( ) B2. "2012 Wetlands Law Update with Question & Answers Session"
( ) C2. "How Sanitarians & Wetlands Agents Can Work Together to Protect Wetlands"
( ) D2. "Can Open Space Be Permanently Protected?"

Session 3 2:00-3:15 PM
( ) A3. "Invasive Species, Climate Change & Other Factors"
( ) B3. "Working Within Your Town to Manage Complex Applications"
( ) C3. "Defining a 'Likely' Impact to the Physical Characteristics of Wetlands"
( ) D3. "Strengthening Conservation Commissions, a Panel Discussion"

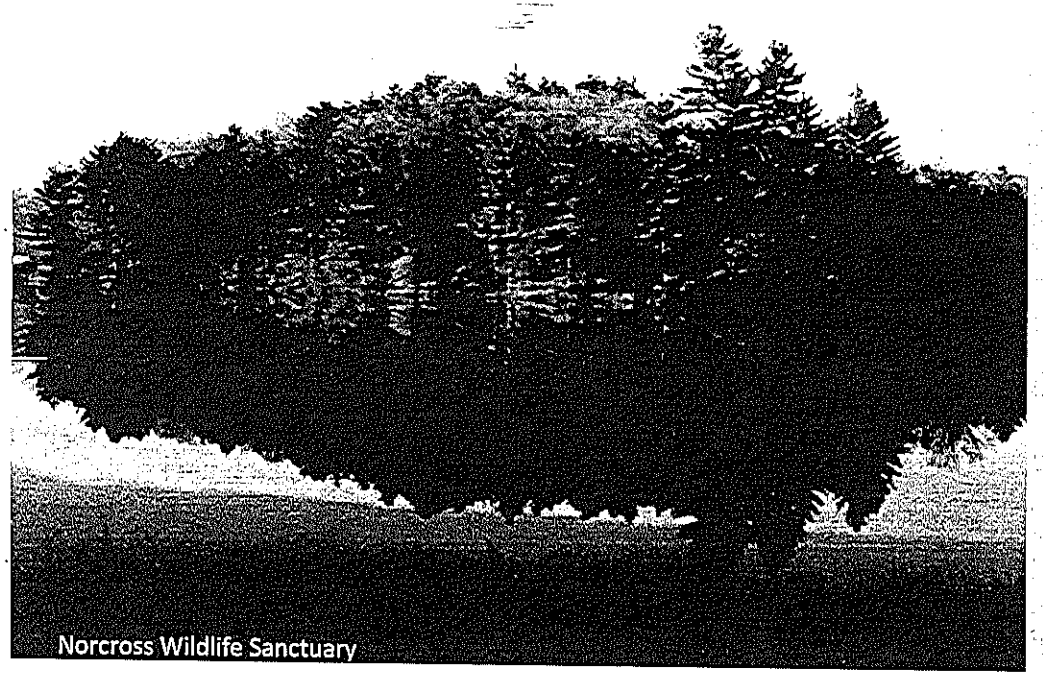
( ) Yes, I will be a Sponsor for CACIWC's 2012 Environmental Conference.
$_____ Tax Deductible Contribution (as allowed by law), see below categories:
Great Horned Owl: $500 and up,
Barred Owl: $250-$499,
Screech Owl: $100-$249,
Saw-whet Owl: $10-$99

Paid Commissions as of 9/15/2012

TOWN	COMMISSION NAME	TOWN	COMMISSION NAME
BROOKFIELD	CONSERVATION COMMISSION	OLD SAYBROOK	CONSERVATION COMM.
BROOKFIELD	INLAND WETLANDS COMMISSION	OLD SAYBROOK	INLAND WETLANDS COMM.
DARIEN	ENVIRONMENTAL PROTECTION COMM.	WESTBROOK	CONSERVATION COMMISSION
EASTON	EASTON CC/IWC	WESTBROOK	IWWC
FAIRFIELD	CONSERVATION COMMISSION	ANSONIA	CONSERVATION COMM.
FAIRFIELD	INLAND WETLANDS AGENCY	ANSONIA	INLAND WETLAND COMM.
GREENWICH	CONSERVATION COMMISSION	BEACON FALLS	CONSERVATION COMMISSION
GREENWICH	INLAND WETLANDS AGENCY	BEACON FALLS	IW & WATERCOURSES
MONROE	MONROE INLAND WETLANDS COMM.	BETHANY	CONSERVATION COMM.
NEW CANAAN	CONSERVATION COMM.	BETHANY	INLAND WETLANDS COMM.
NEW CANAAN	INLAND WETLANDS COMM.	CHESHIRE	CHESHIRE IWWC
NEW FAIRFIELD	CONSERVATION/IWC	CHESHIRE	ENVIRONMENTAL COMM
NEWTOWN	CONSERVATION COMMISSION	GUILFORD	INLAND WETLANDS COMM.
NEWTOWN	INLAND WETLANDS COMM.	GUILFORD	CONSERVATION COMMISSION
NORWALK	CONSERVATION COMMISSION	MADISON	INLAND WETLANDS COMM.
REDDING	REDDING CC / IWC	MIDDLEBURY	CONSERVATION COMMISSION
RIDGEFIELD	RIDGEFIELD CONSV. COMM.	MILFORD	CONSERVATION COMM.
RIDGEFIELD	INLAND WETLANDS BOARD	MILFORD	INLAND WETLANDS COMM.
SHELTON	CONSERVATION COMM.	NAUGATUCK	INLAND WETLANDS COMMISSION
SHERMAN	INLAND WETLANDS & WATERCOURSE COMM.	NORTH BRANFORD	CONSERVATION & IWWC
TRUMBULL	IWWC	NORTH HAVEN	NORTH HAVEN IWC
TRUMBULL	CONSERVATION COMM.	OXFORD	INLAND WETLANDS COMM.
WESTPORT	CONSV. COMM.	OXFORD	CONSERVATION COMM
WILTON	CONSERVATION COMM.	SEYMOUR	CONSERVATION COMMISSION
WILTON	INLAND WETLANDS COMM.	SOUTHBURY	INLAND WETLANDS COMM.
BERLIN	CONSERVATION COMMISSION	WALLINGFORD	INLAND WETLANDS COMM.
BRISTOL	BRISTOL CC / IWC	WALLINGFORD	CONSERVATION COMM.
EAST HARTFORD	INLAND WETLAND/ENVIRON. COMM.	BOZRAH	IWCC
EAST WINDSOR	IWWC	EAST LYME	CONSERVATION of NAT. REX.
ENFIELD	CONSERVATION COMM.	EAST LYME	INLAND WETLANDS AGENCY
ENFIELD	ENFIELD IWWC	GRISWOLD	GRISWOLD IWW / CC
GLASTONBURY	GLASTONBURY CC / IWWC	GROTON	CONSERVATION COMMISSION
GRANBY	CONSERVATION COMM.	GROTON	INLAND WETLANDS AGENCY
GRANBY	GRANBY IWWC	LEBANON	INLAND WETLANDS COMM.
MANCHESTER	P&Z/IWC	LEBANON	CONSERVATION COMM
MANCHESTER	CONSERVATION COMM.	LISBON	CONSERVATION COMM
PLAINVILLE	IWWC	LYME	LYME IWC/CONSERVATION COMM
PLAINVILLE	CONSERVATION COMM.	NEW LONDON	NEW LONDON IWCC
SOUTH WINDSOR	IWA/CC	NORTH STONINGTON	CONSERVATION
WEST HARTFORD	INLAND WETLAND AGENT	OLD LYME	OLD LYME IWWC
WEST HARTFORD	CONSERVATION/ENVIRONMENT COMM.	PRESTON	CONSERVATION
WETHERSFIELD	IWWC	PRESTON	IWWC
WINDSOR	CONSERVATION COMMISSION	SALEM	CC / IWC
WINDSOR	WINDSOR IWWC	SPRAGUE	SPRAGUE CC / IWC
WINDSOR LOCKS	CONSERVATION COMMISSION	STONINGTON	IWWC
WINDSOR LOCKS	INLAND WETLANDS COMM	WATERFORD	CONSERVATION COMMISSION
BARKHAMSTED	CONSERVATION COMMISSION	ANDOVER	CONSERVATION COMM.
BARKHAMSTED	INLAND WETLANDS COMM.	BOLTON	CONSERVATION COMMISSION
BETHLEHEM	INLAND WETLANDS COMM.	BOLTON	INLAND WETLANDS COMM
CANAAN	IWC/CC	COLUMBIA	INLAND WETLANDS COMMISSION
GOSHEN	CONSERVATION COMM	COLUMBIA	CONSERVATION COMMISSION
GOSHEN	INLAND WETLANDS COMM.	COVENTRY	CONSERVATION COMM.
HARWINTON	IWWC	COVENTRY	INLAND WETLANDS AGENCY
NEW HARTFORD	IWWC	HEBRON	CONSERVATION COMMISSION
NEW HARTFORD	CONSERVATION COMMISSION	MANSFIELD	INLAND WETLANDS AGENCY
NEW MILFORD	CONSERVATION COMMISSION	TOLLAND	INLAND WETLANDS COMM.
NEW MILFORD	IWWC	TOLLAND	CONSERVATION COMMISSION
NORFOLK	CONSERVATION/IW AGENCY	WILLINGTON	WILLINGTON IWWC
PLYMOUTH	PLYMOUTH IW/CC	WILLINGTON	CONSERVATION COMM.
ROXBURY	CONSERVATION COMM.	ASHFORD	ASHFORD CONSERVATION COMM.
ROXBURY	ROXBURY IWWC	ASHFORD	ASHFORD IWWC
SHARON	SHARON IWWC	CANTERBURY	IWWC
THOMASTON	THOMASTON IWWC	CHAPLIN	CONSERVATION COMMISSION
WARREN	CONSERVATION & IW	CHAPLIN	CHAPLIN IWWC
WASHINGTON	INLAND WETLANDS COMM.	EASTFORD	EASTFORD IWWC
WOODBURY	CONSERVATION COMMISSION	EASTFORD	CONSERVATION COMM.
WOODBURY	INLAND WETLANDS AGENCY.	HAMPTON	INLAND WETLANDS & WATERCOURSES
DEEP RIVER	IWC / CC	PLAINFIELD	CONSERVATION COMMISSION
EAST HADDAM	E. HADDAM IWWC	PLAINFIELD	IWWC
EAST HADDAM	CONSERVATION COMMISSION	POMFRET	IWWC
EAST HAMPTON	IWWA	STERLING	STERLING IWWC
EAST HAMPTON	CONSERVATION-LAKE COMMISSION	THOMPSON	THOMPSON IWC
HADDAM	CONSERVATION COMMISSION	THOMPSON	CONSERVATION COMM.
HADDAM	INLAND WETLANDS COMM.	WOODSTOCK	CONSERVATION COMMISSION
KILLINGWORTH	CONSERVATION COMM.	WOODSTOCK	WOODSTOCK IWWC
KILLINGWORTH	IWWC		

You're invited...

Strategic Conservation Planning Workshop


Norcross Wildlife Sanctuary

Friday, October 12
9AM-4PM

And

Saturday, October 13
9AM-12:30PM

Hosted by:
The MassConn Sustainable Forest Partnership & The Conservation Fund

Strategic Conservation Planning Workshop*
Held at **The Norcross Wildlife Sanctuary**

Friday, October 12, 9AM-4PM: Through a series of presentations, interactive exercises and working sessions, participants will learn about conservation planning and start shaping the priorities for the region. With GIS support from Harvard Forest, participants will review the latest natural resource information and help craft focus areas for the MassConn region. These focus areas will help MassConn use its limited resources wisely, provide information for capital campaigns and attract new funding to the area. ****Lunch and refreshments will be served****

Saturday, October 13, 9AM-12:30PM: Through presentations, panels and discussions, participants will learn about implementing the strategic conservation plan and focus areas. Participants will learn about tools for federal, private, state and local funding strategies to increase organizational capacity.****Refreshments will be served****

Directions: visit http://www.norcrossws.org/norcross.htm
For GPS: use address 30 Peck Rd., Wales, MA

RSVP: by **September 28**, 2012. Call 413-214-2422 or
Email kautumnblake@gmail.com

*Funded by the Regional Plan Association

Norcross Wildlife Sanctuary
P.O. Box 269 Wales, MA 01081

HARTFORD CT 061
18 SEP 2012 PM 6 L

Justice FOREVER

Conservation Commission
4 East Eagleville Rd.
Mansfield, CT 06268

06268257404

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Announcement
Open Meetings to Discuss Public Act 12-155
An Act Concerning Phosphorous Reductions in State Waters

To: Municipal Chief Elected Officials
Municipal Water Pollution Control Authorities and Superintendents
Other Interested Parties

From: Macky McCleary, Deputy Commissioner
Department of Energy and Environmental Protection

Date: October 5, 2012

The Department of Energy and Environmental Protection (DEEP) is pleased to announce two initial meetings to discuss the requirements of Public Act 12-155 and to discuss plans and strategies to move forward. The Act requires DEEP to collaborate with chief elected officials (or their designees) of Danbury, Meriden, Waterbury, Cheshire, Southington and Wallingford, and any other municipality impacted by the state-wide strategy to reduce phosphorus, and to collaboratively evaluate and make recommendations regarding a state-wide strategy to reduce phosphorus in order to comply with United States Environmental Protection Agency (USEPA) standards.

In order to best frame the issues, the two initial meetings are divided by topic and scheduled as follows:

Topic- State-wide response to address phosphorus nonpoint source pollution

November 5, 2012
9-11 AM
Phoenix Auditorium
Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT.

Topic- Scientific methods to measure phosphorous levels, approaches for municipalities to comply with pl osphorous standards, and guidance for wastewater treatment and treatment plant upgrades

December 6, 2012
9-11 AM
Phoenix Auditorium
Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT.

All interested parties are welcome to attend. Please RSVP to Patty Gilmore at Patty.Gilmore@ct.gov if you plan to attend the meetings.

Background
DEEP has been working with the USEPA on a statewide nutrient control strategy for our waters. Nutrient enrichment is one of the most pressing water quality issues facing Connecticut and the nation as a whole. Excess nutrients jeopardize water quality resulting in excessive algae and aquatic plant growth (eutrophication) which impairs fish and aquatic life, recreational use and, in limited cases, can cause health concerns. Phosphorus in particular is the limiting nutrient in freshwaters in the state, is the primary cause of many water impairments, and threatens many others. As a result, the USEPA has required more aggressive action by states to limit nutrients to surface waters. The Department of Energy and Environmental Protection (DEEP) has been working with the USEPA on a statewide nutrient control strategy for our waters. The strategy uses best available science to identify phosphorus enrichment levels in waste receiving rivers and streams that adequately protect water quality. Discharges from wastewater treatment plants (WWTP) are the leading source of phosphorous to our waters, while polluted runoff (stormwater and other non-point sources) also contribute to a lesser degree.

PA 12-155 specifically requires DEEP to collaborate with towns on the following:

- a state-wide response to address phosphorus nonpoint source pollution
- scientific methods to measure current phosphorous levels and to make future projections of phosphorous levels
- approaches for municipalities to comply with standards established by the USEPA for phosphorus, including guidance for treatment and potential wastewater treatment plant upgrades.

Additional Information
The Department has posted information and materials concerning phosphorous and the proposed control strategy on our website:

http://www.ct.gov/dep/cwp/view.asp?a=2719&q=474130&depNav_GID=1654

Additional meetings will be scheduled to further explore these topics as necessary including possible workgroups. If you have further questions please contact the Water Protection and Land Reuse Bureau, Planning & Standards Division at 860 424-3020.